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Observations
ON THE
PHARMACO-THERAPY OF PNEUMOCOCCUS INFECTIONS.[1]

BY SIR ALMROTH E. WRIGHT, M.D. DUB., F.R.S.,
IN CONJUNCTION WITH
W. PARRY MORGAN, M.D. CANTAB., L. COLEBROOK, M.B. LOND., AND R. W. DODGSON, M.D. LOND.

THE discussion of the pharmaco-therapy of pneumonia may conveniently be introduced by certain general considerations with regard to the therapeutics of bacterial disease. Here the problem which ranks before every other is that of compassing the destruction of microbes in the tissues and fluids of the living body. Such destruction can be compassed only by bringing to bear upon the infecting microbes chemical agents which are *bacteriotropic*—i.e., which will *turn towards*, combine with, and disorganise the protoplasm of the bacteria. But it would not suffice that the chemical agents which are administered should be bacteriotropic. Our chemical agents must—and I here again employ technical terms which were coined by me in a die furnished by Ehrlich—also be *monotropic* for bacterial protoplasm—i.e., they must have a specific affinity for the protoplasm of the particular offending microbe, and be inert with respect to all the chemical constituents of the normal body. For if our chemical agents were *polytropic*, their energy would be wastefully and harmfully expended: wastefully, because they would become inert with respect to the microbes, and harmfully, because, as Ehrlich has taught us, foreign chemical substances which combine with elements of the living body act *eo ipso* as poisons—throwing out of gear the chemical metabolism and physiological functioning of any element of the body to which they may attach themselves.

Our prospects in the matter of the treatment of a bacterial infection like pneumonia will plainly depend primarily upon whether we can, or cannot, come by chemical agents which are monotropic, or as nearly as possible monotropic, for the protoplasm of the pneumococcus, which is, in the Transvaal as elsewhere, the causal agent of the disease. The outlook is as follows. In the first place the animal organism—and the human organism, it would appear, in a paramount degree—is capable of elaborating chemical agents such as we require. There is within the human body a laboratory which can, within certain limits, furnish bacteriotropic substances which will enter into destructive chemical combination with any and every variety of bacterial protoplasm. And the bacteriotropic substances of its furnishing are such as do not become inert in the blood, and such as do not poison the tissues. Upon these facts, and upon the fact that the chemical machinery which elaborates bacteriotropic substances is set in motion whenever a chemical attack is made upon the tissues by dissolved bacterial protoplasm, all *immuno-therapy*, and in particular all *vaccine therapy*, has been built up.

But we can conceive also of other chemical agency for killing microbes in the body. It is conceivable that drugs might be found which should fulfil the required condition of being monotropic for a particular variety of bacterial protoplasm, or for bacterial protoplasm in general. As already indicated, it is with the therapeutic method which proposes to employ such drugs—the *specific chemo-therapy of Ehrlich*—that we are here concerned. In connexion with this we have here to ask ourselves (*a*) whether we do well to employ the term "chemo-therapy" to denote the treatment of microbial diseases by drugs which are monotropic for the offending microbes; (*b*) what is the relation in which this method stands to traditionary medicine; and (*c*) whether it is a defensible proceeding to administer a drug where we have neither *a priori* grounds for believing that that drug could, or satisfactory evidence to show that it does, effect what it is intended to effect. When we have settled these preliminary questions we shall have to ask ourselves, more particularly in connexion with æthylhydrocupreinhydrochlorate—a drug which Professor Morgenroth[2] has recently brought forward for trial in pneumonia—*in the first place*, how a favourable presumption such as will warrant our experimenting with it on man; and *in the second place*, how a definite verdict with regard to its efficacy or otherwise in human pneumonia can be arrived at.

(*a*) Addressing ourselves first to the question of nomenclature, let us note that *chemo-therapy* is a term which ought, in view of its etymology, to cover in addition to specific drug treatment, also all forms of immuno-therapy, inasmuch as the attack which is made upon the microbes is, also in immuno-therapy, a chemical attack. To restrict the application of the term to specific treatment by drugs, and to set *chemo-therapy* over against *immuno-therapy* is, therefore, to suggest a quite wrong mental picture of the last mentioned. A logical terminology would employ chemo-therapy only as a generic term—classifying under it *pharmaco-therapy* or specific pharmaco-therapy—the method which employs drugs which are monotropic for the offending microbe, and *immuno-therapy*—the method which employs bacteriotropic substances elaborated by the immunising responses of the inoculated organism.

(*b*) The possibility that the use of the term pharmaco-therapy might carry with it the suggestion that we are here reverting to the traditionary method of medicine brings up for discussion our second issue—the issue as to the relation in which the pharmaco-therapy of Ehrlich stands to the prescribing of antiseptics. It need hardly be pointed out that there is between these two a great gulf fixed. For it never entered into the conceptions of the physician who prescribed antiseptics to require of these that they should be monotropic for the causal agents of disease; nor did he appreciate that the effective dose of a therapeutic agent is capable of being determined by blood tests; nor, again, does he seem to have appreciated that there devolved upon him, once he involved himself in experimentation, a duty to set to work to ascertain the results of his experiments. He seems to have proceeded upon the assumption that any antiseptic, such as creosote, given in such doses as the patient could tolerate, must exert a check upon the growth of microbes in the body; and he was satisfied not only himself to proceed upon that faith, but to hand it down as dogma to future generations, until it perhaps might, in the fulness of time, ultimately appear whether any good had come of the treatment. Such, it will be recognised, is the spirit in which antiseptics were prescribed in bacterial diseases.

(*c*) Our next issue is whether it is a defensible proceeding to administer a drug concerning which we have neither *a priori* grounds for believing that it will, nor evidence to show that it does, do what is intended. Such practice is, from the standpoint of strict science, clearly indefensible, and we as a profession in point of fact regard it as indefensible. For we reprobate in quackery, not only the fact that it has a low standard of financial rectitude, and that it proclaims its merits in public places, but also the fact that it proceeds upon assumptions which are either demonstrably false or scientifically unjustified. And I would here emphasise that we condemn not only treatment which is based upon notoriously erroneous assumptions, but also treatment which is simple random experimentation.

Now if this is so, and if such treatment as the administration of gold as a cure for dipsomania, or of sarsaparilla as a cure for phthisis, falls under our censure as being at best mere random experimentation, and random experimentation which is, so far as we know, unjustified by results, it is clear that such treatment as the giving of quinine in Mediterranean fever and typhoid fever, and of salicylate of soda in streptococcal endocarditis must also fall under our censure—unless, of course, it should appear either that these drugs may be expected to kill the microbes of these diseases in the interior of the body, or that, failing this, they can be shown to be in some other way definitely useful. In connexion with the treatment of bacterial disease we ought long ago to have

[1] Being Part I. of a Report to the Witwatersrand Native Labour Association on the Results of an Inquiry into the Causation, Prophylaxis, and Treatment of the Pneumonia which affects the Native, and in particular the Tropical Native Labourers in the Rand Mines.

[2] Morgenroth and Levy: "Chemotherapie der Pneumokokkeninfektion," Berliner Klinische Wochenschrift, 1911, No. 34, and 1911, No. 44; Morgenroth and Rosenthal: "Chemotherapeutische Beobachtungen," Berliner Klinische Wochenschrift, 1911, No. 3.

verified our premisses and to have found out whether the agents which we prescribe for the purpose of killing microbes are effective under the conditions in which they have to do their work in the body. The methods are available.

In the case of such a drug as æthylhydrocupreinhydrochlorate—the drug which we propose here to investigate—we ought to undertake some such a series of investigations as he following:—

(I.) Measurement of the bacterial effect exerted upon the pneumococcus by graduated dilutions of the drug in water and serum respectively.

(II.) Prophylactic and therapeutic experiments on animals supplemented by measurement of the bactericidal effect exerted upon the pneumococcus by the blood of these animals drawn off before and after the administration of the drug.

(III.) Preliminary experiments on normal and infected men, supplemented by measurements of the bactericidal effect exerted upon the pneumococcus by the blood of these men drawn off before and after the administration of the drug; and

(IV.) Comparison of the course which pneumonia runs in treated and untreated cases.

(I.) MEASUREMENT OF THE BACTERICIDAL EFFECT EXERTED UPON THE MICROBES OF THE DISEASE BY GRADUATED DILUTIONS OF THE DRUG IN WATER AND HUMAN SERUM RESPECTIVELY.

The object of such experiments is to determine (*a*) whether the chemical energy of the drug is expended wastefully upon the blood fluids; (*b*) to determine, with a view to fixing the dose, what concentration of the drug will be required to exert a bactericidal effect in the blood; and (*c*) whether the introduction of the antiseptic into the blood interferes with phagocytosis or any other of the antibacterial properties of the blood.

The experiments which are here subjoined, and which were conducted with a modification of the technique which I have elsewhere[3] described, bring out very clearly that, while our ordinary antiseptics are polytropic and expend their energy wastefully upon the blood fluids, we have in æthylhydrocupreinhydrochlorate a chemical agent which exerts its effect practically undiminished in serum. The experiments bring out that dilutions of 1 part of lysol in 500 parts of serum, dilutions of 1 part of creosote in 2500 to 12,500 parts of serum, and dilutions of 1 part of guaiacol in 2500 parts of serum fail to kill the pneumococcus; while dilutions of 1 part of lysol in 62,500 parts of water, dilutions of 1 part of creosote in 300,000 of water, and dilutions of 1 part of guaiacol in 1,500,000 of water, all kill the pneumococcus. They bring out further that dilutions of 1 part of æthylhydrocupreinhydrochlorate in 400,000 parts of serum kill the pneumococcus, and that dilutions of 1 in 800,000 inhibit the growth; and that the antiseptic values of the serum dilutions of the drug do not differ appreciably from the values obtained for watery solutions. Finally, they show that æthylhydrocupreinhydrochlorate exerts its bactericidal effect specifically upon the pneumococcus.

Measurement of the Bactericidal Effect exerted upon the Pneumococcus by Lysol in Graduated Dilutions made with Water and Human Serum[4] respectively.

Strength of the lysol dilutions which were brought in contact with the pneumococci (in each case 5 c.mm. of the lysol dilution was digested overnight with several thousands of pneumococci).

	1/500	1/2500	1/12500	1/62500	1/312500	1/1565000
Dilution in water	O	O	O	O	X	X
,, human serum	X	X	X	X	X	X

The signs O and X respectively are employed to signify that a growth was not, or was, obtained on cultivating in serum broth the microbes which had been digested with the bactericidal agent.

[3] For the general method see Wright, "Technique of the Teat and the Capillary Glass Tube" (Constable, London, 1912), pp. 108–113. The modification consisted in using, instead of a unit volume of the bactericidal agent and a unit volume of microbial suspension, a 5 c.mm. volume of the bactericidal agent, and only so much of the bacterial suspension as was obtained by filling this in up to a 5 c.mm. mark placed upon the stem of the capillary tube, and then blowing it out again. The number of microbes which this proceeding furnished was elicited in each case by cultivating a series of eight or more control tubes filled in with serum broth after wetting the walls up to the 5 c.mm. division mark with the same bacterial suspension as was employed in the companion series of tubes.

[4] The human sera which were employed in this and the following experiments exerted no bactericidal effect on the pneumococcus.

Measurement of the Bactericidal Effect exerted upon the Pneumococcus by Creosote in Graduated Dilutions made with 0·85 per cent. Salt Solution and Human Serum respectively.

Strength of the creosote dilutions which were brought in contact with the pneumococci (in each case 5 c.mm. of the creosote dilution was digested overnight with about 625 pneumococci).

	1/500	1/2500	1/12500	1/62500	1/312500
Dilution in NaCl 0·85 per cent.	O	O	O	O	O
,, human serum ...	O	X	X	X	X

Strength of the creosote dilutions which were brought in contact with the pneumococci (in each case 5 c.mm. of the creosote dilution was digested with about 45,000 pneumococci)

	1/500	1/2500	1/12500	1/62500	1/312500
Dilution in water	O	O	O	O	O
,, human serum ...	O	O	X	X	X

Measurement of the Bactericidal Effect exerted upon the Pneumococcus by Guaiacol in Graduated Dilutions made with Water and Human Serum respectively.

Strength of the guaiacol dilutions which were brought in contact with the pneumococci (in each case 5 c.mm. of the guaiacol dilution was digested overnight with about 45,000 pneumococci).

	1/500	1/2500	1/12500	1/62500	1/312500	1/1565000
Dilution in water ...	O	O	O	O	O	O
Dilution in human serum	O	X	X	X	X	X

Measurement of the Bactericidal Effect exerted upon the Pneumococcus by Æthylhydrocupreinhydrochlorate in Graduated Dilutions made with 0·85 per cent. NaCl and Human Serum respectively.

Strength of the æthylhydrocupreinhydrochlorate dilutions which were brought in contact with the pneumococci (in each case 5 c.mm. of the æthylhydrocuprein dilution was digested over-night with several thousands of pneumococci).

	1/1000	1/10000	1/50000	1/100000	1/200000	1/400000	1/800000
Dilution in NaCl 0·85 per cent.	O	O	O	O	O	O	O
Dilution in human serum	O	O	O	O	O	O	X*

* Very sparse culture after 36 hours.

Note.—A control in which the same number of pneumococci were introduced into 5 c.mm. of untreated normal human serum gave a plentiful culture of pneumococci.

Measurement of the Comparative Bactericidal Effects of Serum Dilutions of Æthylhydrocupreinhydrochlorate upon Pneumococcus and Staphylococcus, and Pneumococcus and Bacillus paratyphosus respectively.

Strength of the dilutions of æthylhydrocupreinhydrochlorate in serum which were brought into contact with the bacteria (in each case 5 c.mm. of the æthylhydrocupreinhydrochlorate dilution was digested overnight with some thousands of microbes).

	1/100	1/1000	1/5000	1/10000	1/15000	1/20000	1/25000	1/40000
Staphylococcus	—	—	X	X	X	X	—	—
Pneumococcus	O	O	O	O	O	O	O	O

	1/200	1/1000	1/10000	1/20000	1/40000	1/60000	1/80000	1/100000
Bacillus paratyphosus ...	X	X	X	X	X	X	X	X
Pneumococcus	—	—	O	O	O	O	O	O

Note.—In each case a control in which the same number of pneumococci were introduced into 5 c.mm. of untreated normal serum gave a plentiful culture of pneumococci.

It is clear upon the basis of these experiments that we may reasonably infer that æthylhydrocupreinhydrochlorate would be capable of exerting a bactericidal action upon the pneumococcus *in vivo*. Further, if we work upon the figures of these experiments, upon the assumption that we are dealing with a man of 70 kilos (of which 7 kilos would represent blood), and on the quite unrealisable assumption that when a drug is administered the whole quantum will be absorbed into the blood and come into operation at the same moment, the doses of the various antiseptics which would be requisite to produce a bactericidal effect upon the pneumococcus circulating in a patient's blood can be calculated. The dose in the case of lysol would be greater (experiment does not tell us how much greater) than 14 grm. (½ oz.); in the case of creosote and guaiacol greater than 2·8 grm. (over 45 minims); and of Morgenroth's drug only 0·017 grm.

(II.) PROPHYLACTIC AND THERAPEUTIC EXPERIMENTS UPON ANIMALS INOCULATED WITH THE PNEUMOCOCCUS SUPPLEMENTED BY IN VITRO EXAMINATIONS OF THEIR BLOOD DRAWN OFF BEFORE AND AFTER THE ADMINISTRATION OF THE DRUG.

While *in vitro* experiments such as the above will tell us whether the chemical energy of a bactericidal agent is or is not wastefully expended upon the blood fluids, and what is

the minimum quantity of the drug that must be introduced into those fluids in order to achieve a bactericidal effect, they cannot tell us whether the drug will prevent or cure an infection, and whether the drug will exert a poisonous action upon some important element of the animal machinery. Experiments *in vivo* are here required.

But too high a value may be set upon purely *in vivo* experiments. It is in the laboratory often forgotten that animal experiments, when not followed up by blood tests conducted *in vitro*, leave us quite in the dark as to the causes of the observed effects. For instance, in the case where infecting bacteria have been killed by the administration of a bacteriotropic drug, they leave unresolved the question whether this result is to be ascribed wholly to the drug, or in part to the drug and in part to superadded immunising responses. Again, it is often forgotten that the conditions in the human organism may be fundamentally different from those in the animal with respect to the form which the bacterial infection takes, the access of the blood fluids to the infecting microbes, the absorption and excretion of the drug, and the susceptibility of the nobler tissues to its toxic action.

These points having been premised, we may turn first to the consideration of the results of the animal experiments which were carried out by Morgenroth and his fellow workers. These experiments are destined to stand out as a landmark in the history of the pharmaco-therapy, because they furnish the first demonstration of the possibility of preventing and curing a bacterial—as distinguished from a protozoal or spirochætal—infection by the administration of a drug. All that it will be necessary to do here will be to give the general result of Morgenroth's experiments. These were conducted on mice inoculated with cultures of pneumococcus which killed without exception every untreated mouse. The æthylhydrocupreinhydrochlorate or sulphate was administered in some cases before, in others after, the inoculation. Employed thus the drug prevented the development of the infection in some 90 per cent. of the prophylactically treated; and cured about 50 per cent. of the animals in which treatment was postponed till after inoculation. To the clear and complete evidence which Morgenroth's tabulated experiments furnish upon these points, there remained only to add bactericidal experiments conducted *in vitro* on the blood fluids and urine of treated and untreated mice. Following will be found details of such bactericidal experiments undertaken by us upon untreated mice and mice treated with the same doses of æthylhydrocupreinhydrochlorate as were employed by Morgenroth in his experiments.

Measurement of the Bactericidal Effect exerted upon an Enumerated Suspension of Pneumococcus by the Undiluted Pooled Serum of a Group of Mice treated with Æthylhydrocupreinhydrochlorate (2 mgrm. to 10 grm. body-weight), and by the Undiluted Pooled Serum of a Control Group of Untreated Mice.

Dilutions of the pneumococcus suspension which were employed	1/1	1/5	1/15	1/45	1/135	1/405	Bactericidal effect calculated out for 1 c.c. of serum.
Pooled serum of five untreated mice	X	X	X	X	X	X	1 c.c. serum kills 0 cocci.
Pooled serum of five treated mice three hours after subcutaneous injection of the drug	X	X	X	0	0	0	1 c.c. serum kills 1200 cocci.
	1/1	1/4	1/16	1/64	1/256	1/512	
Pooled serum of four untreated normal mice	—	X	X	X	X	X	1 c.c. serum kills 0 cocci.
Pooled serum of four treated mice three hours after injection of the drug	X	X	X	0	0	—	1 c.c. serum kills 1600 cocci.

We have in the data following, with regard to the sera of mice treated with æthylhydrocupreinhydrochlorate, satisfactory explanation of the successful results obtained by Morgenroth in his experiments upon animals. Further, we have in the data which refer to the urine of the treated mice, in those afterwards obtained in experiments made on the urine of man, and also in the fact that the bactericidal power which the serum acquires after the exhibition of Morgenroth's drug is not diminished by heating to 60° C., satisfactory evidence that the bactericidal effects recorded above are due to the absorption of the drug into the blood fluids and to its excretion in the urine.

Measurement of the Bactericidal Effect exerted upon an Unenumerated Suspension of Pneumococcus by the Undiluted Pooled Serum and Pooled Urine of a Group of Mice Treated with Æthylhydrocupreinhydrochlorate (2 mgrm. to 10 grm. Body-weight), and by the Undiluted Pooled Serum and the Pooled Urine of a Control Group of Untreated Mice.

Dilutions of the pneumococcus suspension which were employed.	1/5	1/25	1/125	1/625	1/3125	
Pooled serum of four untreated mice.	—	—	X	X	0	
Pooled serum of four treated mice killed five hours after subcutaneous injection of the drug.	0	0	0	0	0	The serum of the treated killed more than 25 times as many pneumococci as the serum of the untreated mice.
Pooled urine of four untreated mice.	—	X	X	0	0	The urine of the treated killed more than five times as many microbes as the urine of the untreated mice.
Pooled urine of four treated mice.	0	0	0	0	0	

(III.) PRELIMINARY EXPERIMENTS ON UNINFECTED OR INFECTED MEN SUPPLEMENTED BY EXPERIMENTS UPON THEIR BLOOD DRAWN OFF BEFORE AND AFTER THE ADMINISTRATION OF THE DRUG.

The purport of these experiments upon man is to test the inferences drawn from the *in vitro* experiments on human blood which have been described under (I.), and from the *in vivo* and *in vitro* experiments on animals which have been described under (II.). The ideal order of experimentation is to commence with experiments on normal men: first, because it would be to the advantage of the sick that we should, when dealing with them, have something to guide us in our dosage and the interspacing of our doses; secondly, because we may reasonably hope to obtain from normal men timelier warning of any toxic effect that might be produced by our drug.

The experiments which are subjoined were carried out in part upon normal men and in part upon pneumonia patients; and we may in this particular section confine ourselves to the issue as to whether, under the administration of the drug, the blood fluids of the patient acquire a bactericidal power, or alter with respect to their opsonic power. And we may leave over to the next section the issue as to whether the exhibition of the drug exerts a favourable influence on the course of pneumonia.

Measurement of the Bactericidal and Opsonic Power Exerted upon the Pneumococcus by Human Serum drawn off before and after the Administration of Æthylhydrocupreinhydrochlorate.

Experiment No. I.—(a) Three normal natives receive on Jan. 31st 1912, 0·5 grm. of Morgenroth's drug by the mouth.

Dilutions of the pneumococcus suspension which were employed.		1/25	1/75	1/225	1/675	1/2025	Bactericidal effect exerted by 5 c.mm. of serum.	Opsonic index.
Approximate number of pneumococci in the quantum of suspension employed.		54	18	6	2	2/3		
No. 106,603	Before administration.	X	X	0	0	0	Kills 6 pneumococci.	0·27
	Three hours after administration.	0	0	0	0	0	Kills 54 pneumococci or more.	0·36
No 79,519	Beford administration.	X	0	X	X	X	Kills 0 pneumococci.	0·22
	Three hours after administration.	0	0	0	0	0	Kills 54 pneumococci or more.	0·38
No. 106,717	Before administration.	X	X	X	X	0	Kills 0 pneumococci.	0·30
	Three hours after administration.	0	0	0	0	0	Kills 54 pneumococci or more.	0·42

(*b*) The same three men receive on Feb. 1st, 1912, 1 grm. of Morgenroth's drug by the mouth, and blood specimens are taken three hours after.

Dilutions of the pneumococcus suspension which were employed.	1/5	1/15	1/45	1/135	1/405	Bactericidal effect of 5 c.mm. of serum.	Opsonic Index.
Approximate number of pneumococci in the quantum of suspension employed.	54	18	6	2	2/3		
No. 106,603	X	X	X	X	X	Kills 0 pneumococci.	0·34
No. 79,519	O	O	O	O	O	Kills 54 pneumococci or more.	0·24
No. 106,717	X	X	O	O	O	Kills 6 pneumococci.	0·37

Experiment No. II.—Normal natives Nos. 1 and 2 receive 1 grm., and Nos. 3 and 4 0·5 grm. of Morgenroth's drug by the mouth. Comparative determinations of the bactericidal power of their sera before and three hours after the administration of the drug show, in the case of No. 1: before administration, no inhibiting or bactericidal effect; after administration, a bactericidal power of over 35 pneumococci per 5 c.mm. Similar estimations in the case of Nos. 2, 3, and 4 show: before administration, no inhibiting or bactericidal effect; after administration, no bactericidal effect but inhibition of growth in all dilutions. Opsonic measurements carried out on these bloods gave the following results:—

No.	Pneumococcus (phagocytic counts). Before administration.	After administration.	Staphylococcus (phagocytic counts). Before administration.	After administration.
1	2·12	1·94	1·02	1·29
2	3·34	2·94	1·51	1·78
3	2·0	2·14	1·9	1·93
4	1·76	2·36	1·59	1·24

There was ground, both in this experiment and the next, for suspecting that one, or perhaps two, of the natives may have found opportunity to vomit the drug.

Experiment No. III.—Three normal natives receive 0·5 grm. of Morgenroth's drug by the mouth. Comparative determinations of the bactericidal power of their sera before and three hours after the administration of the drug show, in the case of Nos. 1, 2, and 3: no bactericidal effect before administration; in the case of Nos. 1 and 3: no bactericidal effect after administration; in the case of No. 2: after administration, a bactericidal effect of 32 pneumococci per 5 c.mm.

Experiment No. IV.—A native with pneumonia receives 0·5 grm. of Morgenroth's drug hypodermically, and 0·5 grm. at the same time by the mouth, and samples of his blood are taken for bactericidal measurement before and three hours after the administration of the drug.

Dilutions of the pneumococcus suspension which were employed		1/5	1/25	1/125	1/625	1/3125	Bactericidal effect of 5 c.mm. of serum.
Approximate number of pneumococci in the quantum of suspension employed		3125	625	175	25	5 or more	—
Patient 60847	Before administration	X	X	X	X	X	Kills 3125 pneumococci or more.
	After administration	O	O	O	X	O	

Experiment No. V.—Three natives with pneumonia receive Morgenroth's drug: No. 1 a dose of 1 grm. by the mouth; No. 2 a dose of ½ grm. hypodermically; and No. 3 a dose of 0·5 grm. hypodermically.

Dilutions of the pneumococcus suspension which were employed		1/25	1/175	1/625	1/3125	Bactericidal effect exerted after administration of the drug.
Patient 30199	Before administration	X	X	X	X	Serum kills more than 125 times as many pneumococci as it did before.
	Five hours after administration	O	O	O	O	
Patient 60831	Before administration	X	X	X	O	Serum kills more than 25 times as many pneumococci as it did before.
	Five hours after administration	O	O	O	O	
Patient 79519	Before administration	X	X	X	O	Serum kills more than 5 times as many pneumococci as it did before.
	Five hours after administration	X	O	O	O	

The experiments which have been set forth above make it clear that in man as in mice—but we found that the same did not hold in rabbits—the blood is rendered bactericidal to the pneumococcus by the administration of æthylhydrocupreinhydrochlorate. It is further brought out in Experiment No. 1 and more clearly in Experiment No. 2 that the *opsonic power* of the serum is not appreciably affected by the exhibition of the drug.

(IV.) QUESTION AS TO WHETHER THE COURSE OF PNEUMONIA IN MAN IS FAVOURABLY INFLUENCED BY THE EXHIBITION OF MORGENROTH'S DRUG.

In the case where any one, and *a fortiori* in the case where all, of the lines of inquiry which have been suggested create a presumption in favour of the therapeutic efficacy of a drug, our next task must be to determine whether it is effective in actual application. It will be worth while making an attempt here once for all to get down to the foundations and discover how a trustworthy conclusion in a matter of this kind can be reached. The methods which are at our disposal for the purpose are two: (*a*) the method of crucial experiment, and (*b*) the method of cumulative experiments.

Definition of these Methods.

We employ the first method when we draw our conclusions from a *crucial experiment:* understanding here by a crucial experiment the complete experiment, which involves both a *substantive* and a *control* experiment. This was, for instance, done in the *in vitro*, and in the *in vitro* and *in vivo* experiments reported above. The characteristics of a crucial experiment are the following: (*a*) the experiment can be instituted only when perfectly simple experimental conditions have been arrived at; (*b*) we obtain, on repeating the experiment, always the same result; (*c*) the conclusion which emerges is a categorical or universal truth—i.e., a truth which holds good everywhere where the conditions which are laid down for the experiment are realised.

We fall back upon the *method of cumulative experiments* when we have to experiment in conditions which cannot be sufficiently simplified to allow of the institution of a crucial experiment. When this is the position of affairs we can no longer expect to obtain on repeating our experiment always the same result. And we here can no longer hope to deduce a law from the data of a single experiment, or to formulate a thesis which will hold true in every individual case and of every individual in a class. Conclusions which will be of value can, however, still be reached by marshalling and evaluating the data of a series of substantive experiments and a series of control experiments, and comparing these together. These data may be marshalled and evaluated either (*a*) by the experiential method or (*b*) by the statistical method.

If we employ the *experiential method*—i.e., if we take into account the whole complex of impressions which have been left upon the mind by experience, we arrive at a *generalisation* (which is the general law or general evaluation of the class). This will express the result which we have witnessed in the majority of our cases; and it will, if our experience has been a typical one, hold good of a majority of every other series of such cases.

If, on the contrary, we proceed by the *statistical method*—i.e., if we tabulate and count up our results, we arrive at a *statistical evaluation.* This will set forth the percentage of cases in which a particular result was achieved; and it will, if our experience is a typical one, give the correct odds in favour of that result reproducing itself in the case to which we are giving our attention.

An objection will already have suggested itself: "Is it," it will be asked "beyond question that what is here called the 'experiential method,' is properly distinguishable from the statistical method? And does not the distinction between the methods consist only in this, that when we bring into application the so-called 'experiential method' we are relying upon a badly kept and blurred mental record of the facts which warrants at best an evaluation in general terms, while we have in connexion with the statistical method an accurately-kept written record which warrants an evaluation in precise figures?" The question may be answered by analysing somewhat more minutely first the statistical and then the experiential method.

Further Analysis of the Statistical Method.

The statistical method of evaluation involves three separate operations: (1) A critical study of the raw material of

experience with a view to selecting a suitable criterion upon which to build up our statistics; (2) the sifting of that raw material by aid of the criterion we have chosen; and (3) the evaluation of the results which the sifting has yielded.

(1) *Critical study of the raw material of experience with a view to selecting a suitable statistical criterion.*—We here endeavour to discover in our cases a criterion upon which to build up our statistics. This criterion may be either (*a*) a really *critical feature* (the fact of escaping infection, or of recovering from an attack would, for instance, constitute such a critical feature) by reference to which our substantive and control cases can be distributed into two sharply contrasted sub-groups of pluses and minuses, the individual cases being represented by a plus or a minus according as they do, or do not, exhibit the critical character; or (*b*) a *feature* which is common to all the cases, which can be expressed in figures, and which *varies in a significant manner* (let us say such a feature as the number of days during which each patient's temperature has ranged above the normal).

(2) *Sifting of the raw material by the aid of the criterion we have chosen.*—The basis upon which we are to go to work having been settled, we construct upon that basis a skeleton framework for our tables, and enter each substantive and control case as it comes in its proper column, putting out of sight and regard every element in the case other than the feature we have elected to consider.

(3) *Evaluation of the results which the sifting has yielded.*—We count up the pluses and minuses and find the relative proportion of these in our series of substantive and control cases; or, as the case may be, we total up the figures which represent the respective values of the significant feature in each individual case, and make a comparison between the totals for our two groups of cases. In either case we express the final result in the form of a percentage; and, where the occasion calls for this, compute, or have computed for us, the "probable error" which we should be incurring if we took the substantive and control cases upon which we based our calculations as absolutely average samples of the classes they represent.

Further Analysis of the Experiential Method.

As compared with the statistical method, the experiential is a much less sophisticated and a much less arbitrary method of evaluation. When we employ it we let the two separate streams of experience which correspond to the twin series of substantive and control experiments filter through our minds, and then compare the impressions which have been imprinted. While no complete account can be given of the psychological processes by which this comparison is carried out, the two following points may be noted.

When we bring into application the experiential method we take into consideration every feature of each case and not, as in the case of the statistical method, only one selected feature—in other words, the *experiential* is a method of *unrestricted;* the *statistical* a method of *restricted outlook.* And the mental record upon which we proceed need not be inaccurately kept or blurred. When, for instance, we obtain in a succession of consecutive cases one and the same result, each succeeding case will render more distinct the impression made by the preceding case; and when a case which is at variance with a series of previous cases turns up, it will by contrast stand out very clearly in our consciousness.

Spheres of Application of the Experiential and Statistical Methods.

Neither the experiential nor the statistical method of evaluating cumulative experience is a method of universal application.

The *experiential method* will be inapplicable in the case where the substantive control cases are distinguished by only a very small average difference. And the experiential method will be of only very limited utility in the case where we have in each of these groups a very heterogeneous assortment of cases. For we cannot, in either of these conditions, safely draw any conclusions from a small number of cases. And the capacities of the human intellect are unequal to the task of carrying in mind and weighing one against the other a long procession of substantive and a long procession of control cases. There attaches to the use of experiential method also another important limitation. It is impracticable, in the case where the evaluations of different observers diverge, to bring these together into a single judgment. For there is no method for finding the resultant of a number of non-numerical evaluations.

The difficulties in connexion with the application of the *statistical method* are not less serious than those encountered in the application of the experiential method. But they are of a different order. They lie in the fact that it is the exception to find in connexion with clinical material either a really critical feature by reference to which the cases can be sorted out into successes and failures, or a significant feature which is universally present and which lends itself to arithmetical evaluation.

The difficulty of finding a critical feature which would subserve the purposes of a statistical evaluation can be illustrated by taking the case of the treatment of phthisis. It matters not whether we take as our criterion of success the disappearance of the tubercle bacilli from the sputum, or the disappearance of the pyrexia, or a gain in body weight, or the return of the patient to full work, or simply the survival of the patient for a certain fixed period: no matter what criterion we elect, there will inevitably be found among those who benefit by the treatment many in whom that particular condition is not realised, and also many in whom the fulfilment of that condition will not be of critical value.

It might be suggested that these difficulties should be circumvented by allotting a certain arbitrary number of marks to each significant clinical phenomenon, and then evaluating in accordance with such convention. In reality such a scheme resolves itself into a proposal to make a number of separate statistical tables, and to combine the results in such a way as to make of the statistical method a method of unrestricted outlook. This proposal would make shipwreck upon the fact that it would be impossible to include every case in every column of such a compound statistical table (the apyrexic cases, for instance, would have to be omitted from the column relating to pyrexia). And, again, it would make shipwreck upon the fact that there would be no accepted rate of exchange at which improvement in one respect could be reckoned against improvement in another; no basis for setting off, let us say, a temporary gain in weight in one patient against a temporarily reduced pyrexia in another.

As a certain counterweight against the disadvantages we have been considering is to be reckoned the fact that, once a satisfactory basis for statistics has been found, we can obtain in the form of a single expression the resultant of the evaluations of any number of independent observers.

There is one further point to be considered under this heading; and this, properly appreciated, may legitimately, in the case where a choice has to be made between two methods of evaluation, determine our decision. When we evaluate by a method of restricted outlook, which takes into account only a single feature in each case (and we have seen that in the statistical is such a method), we must, before a trustworthy conclusion can be arrived at, pass in review a very large number of cases. When we evaluate by a method of unrestricted outlook (such as the experiential method) in which every feature in each case is taken into account, a much smaller number of cases will suffice. When there is a shorter and a longer way it will be well not to choose, *on principle*, the longer.

(To be concluded.)

UNIVERSITY OF LONDON.—Dr. F. M. Sandwith has been appointed external examiner in tropical medicine for the year 1912–13, to complete the period for which the late Dr. A. Duncan was originally appointed.—A course of lectures and practical instruction on Physical Anthropology will be given in the anatomy departments of University College and King's College by Professor D. Waterston and Dr. D. E. Derry. The course will begin on Tuesday, Jan. 14th, at 4 P.M., at University College, and will comprise the following branches of the subject: Cranioscopy; Craniometry; Osteometry; Anthropometry (on the living subject); Estimate of Stature, Age, and Sex from Bones; Comparison with Higher Mammals, especially Anthropoidea; and Race Distribution and Characteristics. Further particulars may be had on application to the secretary of King's College, or to the secretary of University College.

AURAL VERTIGO (NON-SUPPURATIVE): A CLINICAL AND THERAPEUTICAL STUDY.

BY RICHARD LAKE, F.R.C.S. ENG.,
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FOR some years it has been very obvious to me that a definite clinical classification of cases of aural vertigo was most desirable. Much attention, as we all know, has been directed to the study of aural vertigo when complicating suppurative conditions. Much interesting work has been done in the endeavour to explain satisfactorily the mechanism, pathology, and histology of the semicircular canals and their influence on equilibrium. It is quite true that in England the number of cases operated upon for suppurative labyrinthitis has been remarkably small in proportion to the number of ears operated upon for chronic suppurative disease as compared with the Continent. Especially this is so when one considers the operative work of the large teaching schools of Germany and Austria.

Perhaps the primary reason for my desire to obtain a working clinical grouping or classification was more for personal than general use. For when one commences such a classification one sees only too clearly the limitations of one's personal horizon and the great difficulties which must be faced if one is to accomplish one's self-imposed task with any satisfaction. Equally evident it must be that the classification such as I am attempting is but an expression of personal views, wanting the light of kindly criticism combined with the enormous advantages to be derived from an aggregation of the views of intelligent and practical men. For it must have struck, and must strike, all of us how hard it is for any writer on such a subject as aural surgery and therapeutics to place in a book new theories, as thereby he lays himself open to the very possible experience of finding that before his book has been long in the hands of his *confrères* some fact has come to light which materially alters his views, and his book remains a standing monument of a good endeavour which has failed.

One of the chief difficulties that we deal with—in fact, I presume one may say the principal difficulty—is that all our reasoning about many pathological conditions, especially aural vertigo and tinnitus, is based upon hypotheses, and these hypotheses being but the expression of the thought of an individual, such cannot appeal to everybody. But after all the human race is more content to accept than to speculate. Otherwise we should see much more marked progress in the elucidation of the abstruse problems of hearing and equilibrium than hitherto.

What I have said with regard to pathological states being equally true of most of the normal physiology of the part, our difficulties are materially enhanced, and that is why I have chosen the title of clinical. For I believe that with our at present limited vista we must be content for the time being with careful clinical observation and careful clinical records, aided by deductive argument, until such time as may, and I trust will, come when definite, clear, and instructive pathological evidence will be obtained which will shed so clear a ray of light upon our branch of the healing art, now shrouded in mystery, that those who live to see it will correct our speculations with their knowledge.

Vertigo only seems to have been considered as an aural symptom for a matter of some 160 years, and even then more from a physiological than from a pathological and clinical standpoint. As far as I have been able to ascertain, by a somewhat cursory and casual investigation, none of the works upon aural surgery published in England until the middle of the nineteenth century had any specific allusion to vertigo; even Toynbee, that astute and far-seeing observer, is, as far as I can find, silent on this subject, and as an absolute matter of fact we must, I believe, look upon Ménière as the first man ever known to give a definite account of a case of the kind, by a careful pathological report of a case of aural vertigo, which aroused the interest of aurists and pointed out to them the value of vertigo as a symptom. This symptom, however, has, as you know, taken many years to arrive at its present importance.

Vertigo, from an aural standpoint, became, and was for many years, only considered as Ménière's disease. The result, of course, was confusion, and the lack of physiological, clinical, and pathological investigation forced that confusion to continue, which it did until the enormous stimulus to labyrinthine surgery was given by Jansen by his work on the labyrinth in suppurative disease. We began, as you know, in about 1904, to operate for intractable vertigo, and the very fact that one had commenced to operate entailed a closer examination and investigation of those cases of vertigo which presented themselves for treatment. For the purposes of this paper I have taken the cases of vertigo which have come to my consulting-rooms during the last six years, some 70 in all, many having been sent to me solely for the purpose of deciding whether or not the case was a suitable one for operation. And I think, when I say that with two hospital appointments and my own private work the total number of cases on which I have operated for this condition is only 14, you will see that operation cannot be so very frequently demanded.

Of course, the large majority of the vertiginous cases occur as a complication of chronic progressive middle-ear deafness. Equally truly, a further fair proportion are caused by the effect of arterio-sclerosis. The exact pathology, as I have before indicated, is quite unknown in many cases. What part is borne, for example, by changes taking place in the calibre of the aquæductus vestibuli, the canalis reuniens or semicircular canals, we are unable to say, but it has always seemed to me extremely probable that pathological contraction of either of these tubes may have a distinct bearing on the question. I shall now, however, proceed to deal with these cases under the grouping which I present, not as a final solution of the clinical problems, but as a basis upon which to start.

Aural Vertigo.

Section I.—Peripheral Causes: (*a*) Chronic Progressive Middle-ear Deafness; (*b*) Hæmorrhage into Labyrinth and Embolism; (*c*) Traumatism.

Section II.—Aural Vertigo due to Altered State of Blood Pressure: (*a*) Increased Blood Pressure; and (*b*) Diminished Blood Pressure.

Section III.—Aural Vertigo due to General Systemic Causes: (*a*) Leukæmia; (*b*) Occasional; (*c*) with Ocular Symptoms; (*d*) Specific; (*e*) Cerebral Anæmia.

SECTION I.

Group A, Vertigo as a symptom in chronic progressive middle-ear deafness.—In other words, vertigo accompanied by a high-grade deafness occurring in patients usually below the age of 40. This arbitrary age limit enables us to eliminate the effect of arterio-sclerosis. The group that we take first under consideration is one of very great importance, for it is within its confines that we find those cases in every way most suitable for operative relief, cases which are untouched by any other form of treatment. The typical cases may be divided into two classes: those which yield to treatment and those which do not. There is no need of, or advantage to be derived from, detailing cases of aural vertigo occurring in chronic progressive middle-ear disease, they are so common. When such a case presents itself one must investigate not only the patient's aural condition, but also carefully search for contributory factors capable of acting as the immediate stimulus to cause the vertigo, for in many of these cases stomachic or similar pathological conditions may be contributory factors, and it is necessary that these be corrected before proceeding to treat the aural condition. When, however, there are no such contributory factors to be found, or when the case is clearly peripheral, one finds small doses of quinine combined with hydrobromic acid quite the most useful form of medication, though besides this strychnine or large doses of valerian, combined with one of the mineral bases, are also efficacious. Electrical treatment is usually ineffective, though the effect of the high frequency current may certainly be tried.

When, however, one meets with patients in whom the vertigo is severe and often repeated, where the deafness is of a high grade, where the stapes is obviously fixed by osseous formation, where internal and external medication are unavailing, and where the patients' state is such that a continuation of life under such conditions is impossible by reason of their inability to earn their own livelihood, or some equally potent cause, then one should without hesitation place before them the advisability of operation. In no case should operation be considered where the hearing is good,

nor, I think, where it is useful. Where it is so reduced as to be a negligible quantity the matter is different, and stands on the same footing as if the patient were completely deaf. For obvious reasons, one finds these patients usually amongst the lower social grades. Thus, out of 14 operations which I have performed, 2 were sailors, 3 clerks, 3 domestic servants, 1 seamstress, 1 hospital nurse, 1 medical man, 1 business man, and 1 a woman of independent means. The effect of the operation is certain. The relief is immediate and lasting, and the danger *nil*, of course provided that the minutest care and attention to detail is observed. And at this point I would wish to emphasise my strong adherence to *anti*septic surgery, in contradistinction to aseptic surgery. First, I can see no advantage that aseptic surgery has over antiseptic surgery in this operation; secondly, as the great bulk of our aural surgery pertains to septic lesions, our staff, both medical and nursing, are more cognisant, at any rate in England, with antiseptic surgery; and finally—and this I take to be the most important point of all—it is, in my opinion, almost, if not quite, impossible to cut off the wound cavity from risk of infection, this risk being due to the existence of the Eustachian tube, often abnormally free in these cases. I think that 14 consecutive operations showing no mortality is not the least argument in favour of my contention. I purposely mention this, being a point that deserves attention and consideration.

Group B, Labyrinthine hæmorrhage and embolism.—Although these two forms occur under widely separated conditions, it appears better, for the sake of simplicity, to group them together rather than to separate them, thereby lessening the number of subdivisions. Hæmorrhage takes place in patients beyond the prime of life, and is a direct result of arterio-sclerosis and is sudden in its onset. The chief evidence which one finds to corroborate the diagnosis of peripheral lesion lies in the use of the rotation test, aided by the caloric, which will show a diminished irritability of the labyrinth—that is, if the former test be employed fairly soon after the lesion has occurred, and before compensatory nystagmus has time to be established. It is also to be proven by the presence of a small island or islands of tuning-fork perception still remaining in the cochlea, a condition which is seen also in traumatic affections of the labyrinth. The following is a case in point.

The patient was a man, aged 55, previously in good health. He was seen in September, 1911, and said that five weeks previously he got up one morning in his usual state of health, but while stretching himself "something went bang in his ear," immediately followed by right-sided deafness acompanied by vertigo and sickness, though the deafness was not noticed for 24 hours—that is to say, at the time the sickness ceased. The vertigo itself lasted two or three days, and he still has at times a sense of loss of coördination. The rotation tests and caloric tests showed a loss of irritability on the right side, while he was able to perceive the tuning-forks between 64 and 256 double vibrations. The fact that deafness was not noted for 24 hours may either have been due to his being very unwell from the sickness, or on account of the blood having taken some time to find its way into the cochlea, but I think the former is more probable.

As a subdivision of this condition we have cases of spontaneous vertigo which occur in quite young people, ages at which necessarily one cannot expect any arterial disease, and sometimes absolutely unassociated with mumps or any specific fever. In some of these one can only grope blindly for the causation, but when the patient is suffering from mumps at the time of the commencement of the vertigo, one is certain that an embolus has occurred, and, as in the third case, one is inclined to suspect that an embolus may occur in the labyrinth from septic conditions present even as far away as the other ear, but not proceed to endolabyrinthine suppuration.

1. A boy, aged 16 years, felt giddy on rising one morning. The floor seemed to go up and down, and he noticed that he was deaf in the left ear. There was no tinnitus. Three weeks afterwards, on examination, one found that he was totally deaf on the left side.

2. A female, aged 28. During a mild attack of mumps, one year previously, she awoke with vertigo, left-sided deafness, and tinnitus, the latter symptom persisting. There was feeble but distinct bone conduction, and complete aerial deafness. The rotation test in this case showed no vertigo, but normal length of nystagmus, and the caloric test was normal on both sides.

3. A female, aged 28, gave the following history. She had left-sided aural suppuration as the result of an acute otitis occurring during scarlet fever at the age of 10. At the age of 14 she woke up deaf in the right ear one morning, with vertigo and vomiting, and rushing tinnitus, which lasted ever since. She was confined to her bed for two or three weeks with vertigo and sickness. On examination, one found that bone conduction still persisted, and that she could hear the tuning forks 512, 1024, and 2048 double vibrations.

These four cases are all similar, and yet dissimilar; in all there is distinct evidence of a peripheral form of lesion. In all one prominent symptom is noticed, not peculiar to this class, but, as we mentioned before, practically always noticed in arterio-sclerosis—that is, the attacks always occurred in the early morning, the same reason doubtless occurring, except in the case of hæmorrhage. That is, in the cases under the latter category, where embolism is the lesion, the heart action and the vital functions are at their lowest during the 24 hours, which would scarcely be the exciting cause in the case of a hæmorrhage.

With regard to the therapeutical aspect of these cases, one must consider at once that cases of hæmorrhage are absolutely beyond our reach. In all the other cases hypodermic exhibition of pilocarpine should be tried, if the patient is seen soon after the recurrence of vertigo—unless the use of pilocarpine is prohibited by the general state of the patient. But if one employs pilocarpine, it is my opinion that the size of the dose should be increased as rapidly as is consistent with safety, and that it should be persisted in for about two weeks. If one bears in mind the dangers likely to occur from its administration, and by means of other therapeutic agents one counteracts those dangers, and at the same time does not interfere with its action, one can make these doses much larger than would otherwise be the case. It has occurred to me only once to see a patient sufficiently early to be able to employ this remedy, and that was in a case which followed or occurred during an attack of influenza, in which the drug employed in the way I have suggested seemed to produce a very beneficial effect.

Group C, Traumatic aural vertigo.—Not infrequently one finds that in fracture of the base of the skull vertigo is complained of, though frequently as a transitory symptom. It is rare that this symptom lasts for more than six months, and then frequently when the patient turns his head away from the affected side, though inability to walk in the dark may last for some years. This symptom of inability to walk in the dark must, I believe, be due to a neuritis of the vestibular nerve, for it is found under two other pathological states of the labyrinth, one that of chronic suppuration, and the other occasionally after an operation for labyrinthectomy. In the latter event it would seem possible that the destruction of the vestibular filaments has not been complete.

As an example of this a man, aged 50, was knocked down in the street by a motor-car, and suffered from fractured base with hæmorrhage from both ears. He was rendered completely deaf by the accident, and whenever he was moved in bed he was very giddy. When seen two years later, if he put his feet together and shut his eyes, he fell, usually towards his right front. Nystagmus could be elicited, more marked in the right side, by fixing the eyes on the finger, and moving it rapidly from side to side. Both the caloric and rotation tests were negative. He was able to hear, or rather perceive, C.512, 1024, and 2048 on the right side. Here again one notices the small island of the cochlea remaining that was capable of stimulation. Vertigo is also a symptom occasionally in rupture of the tympanic membrane; it is due, no doubt, to the forcible action of the compressed air upon the oval window or footplate of the stapes.

As another occasional cause of vertigo one finds the severe pressure of impacted cerumen upon the tympanic membrane and malleus, and still another cause is that of vigorous and persistent nose-blowing. But it is a condition which one can frequently meet with, especially in subjects of nasal obstruction, and not only is this a condition which we meet with not infrequently, but it is doubtless far more common than one thinks. For most people, on finding so obvious a connexion between cause and effect, carefully avoid a repetition of so unpleasant an occurrence. What undoubtedly happens is that the violent inflation drives in with a sudden shock the footplate of the stapes, with the consequence that either the whole labyrinthine fluid undergoes a momentary increase in pressure—a phrase, by the way, one must be most careful of using—or a wave is suddenly started which stimulates the hair cells, and one would never find vertigo as a symptom in instances where the tympanic membrane has stretched and become flaccid.

SECTION II.

Group A, Vertigo caused by increased blood pressure.—Arterio-sclerosis often exhibits its first symptom or symptoms in the internal ear, and for this reason one frequently finds cases in which vertigo, as well as other aural symptoms, will lead to the diagnosis of arterio-sclerosis in the patient. It will

make its presence felt according to the age of the patient, not necessarily the actual age, but the age relative to the vigour of the patient, the activity of his mind and body, and the amount of work performed, whether corporeal or mental. One must in the majority of cases, at least, in which arterio-sclerosis is complicated with vertigo, assume that the lesion is peripheral. This is actually so, I believe. In early cases all the signs and symptoms point in this direction, and they remain so, so long as there is *increased blood pressure*. Also, we know that, especially in those cases which start in relatively early adult life, there is a natural tendency for these most distressing symptoms eventually to disappear. This disappearance may be coupled with the loss of the hearing power in the affected ear. So in arterio-sclerotic vertiginous patients, we must consider each case on its own merits, and we must not indulge too freely in inductive argument. For whilst, as I have said, cases do proceed in the way described, the great number do not exhibit that tendency. Also we cannot legislate for a class of patients whose ages vary from 40 years to the very extreme of life by any single rule.

Again, when we are considering, as we must consider, the question of treatment, especially when dealing with operative treatment, it is not only the problems of the disease, but the station, mode of life, and the importance of the wage-earning power of the individual that weigh down the scale. We must take into consideration also the patient's actual age, and his apparent age, his blood pressure, and his reactions to the various therapeutic agents to whose influence we submit him. We must not entirely omit in such a consideration even such obvious points as his habits, the condition of his digestive organs, of his teeth, of his bowels, and of his kidneys. But, again, we must not allow any *apparent* cause for the trouble to be considered the cause, unless we are able fully to convince ourselves of its importance. Especially as regards the age, it has appeared to me from what I have seen that it is not advisable to speculate upon the probability of the disappearance of the vertigo by the gradual destruction of the vestibular nerve ending, as that is at the best a long process. This applies less, as already noted, in the earlier periods at which arterio-sclerosis may affect the vestibular nerve, than it does when the patient has reached a more mature age, that again resolving itself into a question of the importance of the possession of stable equilibrium to the patient. For the younger the patient, in most instances, the greater the necessity for relatively rapid relief, though operation of itself should present no inherent veto, however old the patient.

Arterio-sclerosis, however, presents in later adult life and at the commencement of old age another aspect of considerable importance, and that is that the vessels are now more universally affected, and so it is not always easy to determine with accuracy as to whether or not the disease is entirely peripheral, or it would be better to say as to whether the symptom of vertigo is due chiefly to a central or peripheral cause. Out of 70 cases, over 20 come under this category, though I am not proposing to give you the numbers of the cases which come under each of my headings, chiefly for the reason that with so small a number the permissible error of proportions is so enormous as to render such figures quite useless. When I referred to the central origin of vertigo as a symptom I referred, of course, to a deficient supply of nourishment being supplied to the vestibular nuclei.

All these cases suffer with deafness in varying degree, and most of them one would find it hard to classify under any other group except that of the chronic progressive middle-ear disease, but I believe the vertigo in all these cases to be distinctly due to the effect of arterio-sclerosis. As examples of the gradual subsidence of the symptom, with its eventual disappearance, I will quote you two cases.

1. A male, aged 43. A stockbroker. First visit, Jan. 1st, 1908. Slight deafness since January, 1907. Some tinnitus. First attack of vertigo and sickness put right by blue pill (July, 1907). One bad attack beginning in bed in morning. Still slight nystagmus to left. Nov. 22nd two attacks, one on golf course and one after dinner (two have now been after dinner). January, 1908, another severe attack. Blood presure, 170. December, 1909, no further attack.

The chief points of interest here were—the patient, a man with early arterio-sclerosis, although quite young for that; he lived an extremely strenuous life, carrying always an enormous amount of speculative stock, and working more than hard in attempting to alleviate the conditions of life of those more humble and penurious. His bone conduction was reduced to but a small percentage, about one-fourth of the average. All seemed to me to point to a rapid loss of vitality in the terminal filaments of the right auditory and vestibular nerves. He was told to sell his stock, to go into the country, and to live a quiet, healthy life, with outdoor exercise. The patient in two years lost his vertigo, but he lost his hearing. Incidentally, he preferred this to operation and quick recovery.

2. A female, aged 46. Seen March 20th, 1908. History of tinnitus (right) commenced March. Vertigo one month—six attacks up to the time I saw patient. Seen again in October, 1908. Patient had had 22 attacks in interval, but tinnitus was better. By February, 1909, total attacks 38, when they suddenly ceased. December, 1909, caloric test (cold) on right side negative, and rotation test very much reduced. Bone conduction, C. (128) = $\frac{38''}{25}$. Rinne negative. Air conduction C_2 to C_4.

In this case the patient undoubtedly suffered from arterio-sclerosis, and the same result was obtained by waiting. It is to be remembered that in 1908 I had only performed the operation eight times, and although the results had all been satisfactory the number was a small one, and I have no doubt the operation was not pressed. Also, neither of these patients needed to consider the problem of their livelihood; they were both of ample means.

The clinical aspect of an ordinary case of arterio-sclerosis vertigo, I think, is much as follows. The special period for vertigo occurring is practically always found in the early morning. (This, however, it will no doubt be recalled, is not absolutely peculiar to arterio-sclerosis.) It occurs in patients over the age of 40, but occasionally slightly younger, sometimes without any previous aural affection, but usually in a patient who is deaf to a greater or less extent. It is almost invariably accompanied by an increase in the deafness. The blood pressure upon examination will be always found to be raised. Occasionally there will be symptoms found which point to other organs being affected, notably the kidney. The attacks usually tend to diminish in violence, and still more frequently it will be found that if the patients are subjected to treatment with a view to lessening their arterial pressure and towards the checking of the disease of the arterioles, the tendency is for the patient to recover as far as the vertigo is concerned. The particular line of treatment which should be adopted I do not think is within the scope of our specialty. Personally, I invariably confine myself to the exhibition of three drugs—hydrobromic acid, with a small dose of quinine, or iodide of potassium. If these drugs fail to afford relief I invariably advise the medical attendant of the patient that the patients' best interests are concerned by placing them under the care of a general physician. It is largely, if not entirely, due to Dr. Schaumberg that one has been able to speak with such great certainty on this point, for we all remember and appreciate his valuable work on the arterial supply of the inner ear. And it is, I take it, to the fact that the internal auditory artery is devoid of anastomosis that this organ is so easily affected in this way.

Group B, Vertigo occurring in patients suffering from aural disease who have a diminished blood pressure.—This group is an extremely interesting one. I only quote two cases again, as being fairly pathognomonic. One finds in the first case a hyper-excitable labyrinth to the caloric test, and in the scond case diminished excitability. Both showed an extraordinary reaction on rotation, both becoming very markedly giddy, so much so that some period of time elapsed before they recovered, and in both the blood pressure was still further diminished by rotation. Although I have not given the exact figures, as the state of the patients made exact investigation impossible, yet in view of the excellent work done by Dr. Byrne of New York it is interesting to mention the fact. And it is also interesting to notice that it is very rarely that one obtains exaggerated vertigo on rotation where the patients are suffering from increased blood pressure. But of one thing one may be quite certain, and that is these cases are not at all suitable for operation, unless one fails to relieve the patient by drugs and other appropriate treatment, given with a view to restoring the blood pressure to its normal. Nor even when one fails can operation always be considered, as in both these patients, for example, where the disease was bilateral, a diminished blood pressure, if at all marked, would, I think, militate against operation. Again, we are not, I think, prepared to say definitely that the effect is entirely due to peripheral trouble. Is it not equally probable that a want of nutrition to the central nuclei, at

least, plays a part in producing this symptom of vertigo? I think we must answer this question in the affirmative.

With regard to the therapeutical aspect, the drug which has given me the best results is ernutine, and as you will see in the second case, it is only by the constant administration of that drug that the symptom is kept in abeyance.

1. A man, aged 55, a clerk, looking at least 65 to 70, and certainly of a nervous temperament, came complaining of vertigo and deafness. The deafness, which was not very severe, had existed 20 years; the giddiness had been noticed for the last few years. During the attacks the objects moved from left to right more frequently than in any other direction. The patient frequently staggered and could not walk straight. Feb. 23rd and March 5th, 1912, rotation test, 10 times in 20 seconds. Terrific vertigo, vomited once. On checking the chair he almost shot out, falling to one side in a state of collapse. Caloric test. Irrigation with cold water gave rise to a similar severe attack. Blood pressure. This was abnormally low, only 105. It seemed quite probable that the low blood pressure was directly connected with the vertigo. In consequence the patient was given ernutine, 10 grains three times daily, with the most satisfactory results. Since the commencement of the treatment no attack of vertigo has been recorded, and on April 1st, 1912, he was reported as quite well.

2. A female, aged 49, of poor physique, was first seen on May 2nd, 1912. She had moderate bilateral deafness of eight years' duration and bilateral tinnitus. Paracusis Willisii and double incipient cataract. (Premature senility.) Vertigo for three years. Since her first attack she has had great difficulty in walking straight, staggers, and often almost falls. Each time that she has one of these attacks vertigo and nausea are well marked She tends to fall to the right side, and objects appear to move from right to left. Turning the head usually produces an attack of intense vertigo, with movement of objects from right to left, and a tendency to fall to the side towards which the head was turned. This also is the case when the patient is lying down. In walking the patient must walk straight and not attempt to turn her head. She has only actually fallen once. She knows what may happen, and holds to something until the attack passes off. Rotation test, 10 times in 20". Excessive reaction; intense vertigo; nystagmus. Blood pressure, after rotation, 95 clockwise, 105 counter clockwise. Caloric test, slight nystagmus only. Strychnine and atropine (Byrne) seemed to make the patient worse. She has now been on ernutine seven months, and is very much better. Whether she is well remains uncertain, but after she was at one time apparently well we found on stopping the administration of the drug that her trouble returned.

SECTION III.

Group A, Leukæmia.—Ménière's disease is, of course, the best known form of aural vertigo. It is most clearly defined, and its pathology accurately known. For this reason I shall treat it briefly. It is only found in cases of leukæmia, or allied conditions, such as pernicious anæmia. The patient is attacked with sudden deafness and vertigo. The deafness is immediate and complete, the vertigo transitory, though extremely severe. Should the patient be erect at the time of the occurrence of the lesion he falls. Vomiting and sickness are practically always present. Should the patient live for any length of time, as I have said, the symptom of vertigo disappears, but the deafness remains. The only case I have seen—which has been published elsewhere—is that of a woman who was suffering from leukæmia and presented all the symptoms above referred to. She lived for some six weeks after the hæmorrhage into the labyrinth. Treatment here is quite useless and need not be considered.

Group B, Casual or occasional causes.—The most usual casual cause of aural vertigo I consider to be gout or gouty dyspepsia, which is also a frequent or casual cause of deafness and tinnitus. These cases are apparently aural, but they have one peculiarity. At the time, or frequently some time before the attack of vertigo, deafness and tinnitus are increased and become pronounced. After the attack of vertigo the deafness gradually disappears, and the hearing becomes as it was before the attack. The following is a case in point:—

The patient was a man of full habit, 46 years of age, who had suffered from slight right catarrhal otitis media. He gradually became subject to severe attacks of vertigo, which for some time I was at a loss to account for. I found that for some short time before his attack of vertigo his deafness was markedly increased, and that after his attack his deafness lessened, and his hearing rapidly returned to what it had been a few weeks previously. As I knew him to be of gouty habit, and found that when his attacks of vertigo were commencing he suffered extremely from flatulence, I sent him to a physician for general treatment, with the result that as his gouty diathesis was got under control his attacks of vertigo ceased.

In such a case, of course, it is an open question as to whether the condition was partly peripheral, and I am inclined to think that his vertigo was not entirely due to his stomach condition, as it frequently is in cases of vertigo occurring during severe bilious attacks, where it is probably the result of a much lowered blood pressure.

Group C, Cases in which vertigo is combined with ocular symptoms.—These may be classed under two headings—the first that class described as aural epilepsy, in which the patients have a visual aura that gradually involves the auditory vestibular nerve. These cases are not very common, at any rate in our consulting rooms. I have only seen one case, in which the patient suddenly had the most extraordinary optical aura, seeing a sort of mirage, with a brightly coloured sun and waving fields, which was followed rapidly by intense vertigo and sickness. These cases yield very readily to treatment; small doses of quinine with hydrobromic acid seem to act as a specific. The other class of case in which ocular symptoms are combined with vertigo are most distinctly obscure, and the following is an example. The patient, a male, 54 years of age, had long resided in India, and returned to England in 1906. On his arrival he contracted a severe cold, which was followed by tinnitus. He had an operation in 1907, when his left kidney was removed. In the following year vertigo commenced, and ever since he has been subject to attacks of vertigo whenever he was subjected to a bright light. Also, curiously enough, loud noises are able to cause the same result. The left ear was markedly deaf, and he was examined carefully by great oculists, who have been unable to find any cause for the condition, and I must admit that I was in the same plight. The patient's very indifferent health would have precluded operation, if one had felt inclined to suggest it, of which I have some grave doubts. For the rest no treatment seemed to give him the slightest relief.

Group D, Specific.—No doubt if one were able to have the control of the examination of numbers of cases of nerve disease of specific origin, such as occurs in the large hospitals for diseases of the nervous system, one would come across many cases of vertigo, especially in tabes dorsalis. In tabes, vertiginous attacks occur combined with deafness and severe tinnitus in the form of a crisis. It is quite likely that they are as much due to the central lesion as to a neuritis of the auditory nerve, and as far as my experience goes one notices in these patients other symptoms (knee-jerk), although the tabetic gait may not be noticeable. It is rarely that one finds vertigo as a symptom of aural specific disease unless there are at the same time symptoms of a graver lesion in the cord.

Inherited specific disease, more than the acquired, produces a form of nerve deafness frequently associated with vertigo, and in these cases, so far as my own experience goes, the vertigo is not a lasting symptom, but with the disappearance of the vertigo the hearing is destroyed. I am inclined to consider that in the acquired one finds a more hopeful prognosis than in the hereditary. But here, as in all forms of specific nerve lesions, treatment must be very prolonged, and a careful watch kept for any return, or threatening return, of the symptom, and it is well after the regular treatment has ceased that the patients submit to a six weeks' course every 12 months, using for choice either iodoform in 5-grain pills or one of the modern iodine preparations.

Group E, Cases in which cerebral anæmia simulates aural vertigo.—The group we now deal with is one which, strictly speaking, perhaps should not have been introduced; but my reasons for introducing it are its value as a contrast, and that the group itself seems to me to be of interest, besides which, these patients are sent to us as aural cases, for in all of them deafness is present. These cases appear to me to be due to cerebral anæmia affecting, at any rate principally, the deep nuclei of the eighth pair of nerves, though whether or not all will agree with my hypothesis, as I am afraid it is, I shall no doubt learn. These cases seem to show one sign in particular, which makes it extremely difficult for me to consider that these are due to a peripheral and not to a central disturbance, and that is a feeling of general surface warmth and of flushing, sometimes accompanied by sweating, which was present in the attacks, a condition which those of you who have suffered from *mal-de-mer* may possibly recall as a not infrequent concomitant, and a symptom also which I have not elicited in cases of obvious aural vertigo. And I believe that the reason that we see these patients is because they are suffering from deafness, and the not unnatural assumption is that they are suffering from aural vertigo.

1. The first was a well-known physician, aged 61, with only one (the right) serviceable ear. He worked extremely hard, he travelled all over the country, often sleeping in trains, or getting but little sleep. He lectured on medicine, and of late had been extremely hard put to prepare a new series of lectures. The hearing in his right ear began to deteriorate, and this no doubt added its quotum to the overstrain.

Easter, 1910, he went for a golfing holiday, forgetful of his age and of the age of his arteries, and played three rounds a day. A few mornings later he awoke with violent vertigo, retching, and vomiting. His body felt very warm. The vomit was bilious, and the direction of objects left to right. He recovered completely. His blood pressure was 150. Again, in July of the same year the same series of events led to a second attack. They were always in the morning. Yet the patient did not take warning, and late one night he fell, seized with sudden vertigo. He sweated feeely and vomited (note sea-sickness). He could not be moved for three hours. When I saw the gentleman in question he was still going ahead as if he were in the prime of life. He had occasionally a severe attack. He got quite over his attacks by taking his life less strenuously, and by the addition of a little alcohol to his dietary.

2. A female, aged 62. A great sufferer from rheumatoid arthritis, and almost complete deafness in the right ear. The patient, despite her severe handicap, was a most energetic and hard-working person, busy with good works. Sept. 3rd, 1912. For about three years she had suffered with left Eustachian obstruction, gradually becoming more and more deaf. On Jan. 1st, 1912, the patient had a severe attack of vertigo in bed in the morning, with objects rotating clockwise in a vertical plane. She has had four or five severe attacks since, and many mild ones. The attacks are heralded by flushing and by a feeling of surface warmth, and at times this is accompanied by perspiration. The patient has, however, had three attacks of vertigo without these symptoms. She could hear a whisper on the left side 4 inches, and C.32 to C.4096 double vibrations. Her blood pressure was 100.

RÉSUMÉ.

Chronic progressive middle-ear deafness and arterio-sclerosis are thus, according to my investigations, the most frequent causes of aural vertigo, and fortunately one finds that a large amount of benefit can be derived from the use of drugs in these cases, though by no means all of them are capable of this relief. We have also seen that operative interference is justified, and where it is used it should be uniformly successful.

There are two points in my paper which I expect will have struck the reader; one is the small reliance placed on the rotary and caloric reactions, and the other is the total omission of that so-called group in which increased labyrinthine pressure is said to exist. It is not, perhaps, quite within the scope of the paper to give at all at length my reasons for not employing the tests, nor for placing more reliance upon them. I am convinced in my own mind that one is able to make one's diagnoses and one's prognoses in the class of case under consideration equally well without their employment. I must, however, admit that, especially in cases of low arterial tension, the results were most extraordinarily interesting. With regard to increased intra-labyrinthine pressure, although I have operated on at least 20 cases of labyrinthine vertigo where there had been no perforation into the labyrinth—14 of them where there had been no previous suppuration, and the rest where there had—I have only twice seen any fluid on opening the labyrinth. In these two cases there was a considerable amount of fluid; one of them also had an extremely large external semicircular canal, apparently four or five times greater than normal. But even then I am not prepared to say that these cases contained fluid under pressure, and I have consequently thought it better, as the matter is treated entirely clinically, to omit this possible factor. But it is rather difficult, indeed, to understand, from a purely mechanical point of view, how fluid can be retained under pressure in such a non-vascular bony cavity as the labyrinth.

The use of ernutine was suggested by my senior clinical assistant, Mr. A. F. Penny, of London. I found it impossible, even in so lengthy an analysis, to contrast and apply Dr. Kerrison's classification to that I adopted, so preferred to leave it, hoping at some future time to give it the place it deserves and derive from it the benefits it possesses.

Harley-street, W.

MANCHESTER UNIVERSITY.—Dr. T. Wingate Todd, lecturer in anatomy in this University, has been appointed Henry Wilson Payne Professor of Anatomy in the Medical Department of the Western Reserve University, Cleveland, Ohio.

TUBERCULOSIS DISPENSARY FOR BIRKENHEAD.—Dr. J. R. Hutchinson, Local Government Board inspector, held an inquiry recently at the Birkenhead town hall into an application by the town council for powers to borrow £620 for a tuberculosis dispensary under the Insurance Act. It is proposed to purchase premises in Duncan-street, and convert them into a dispensary. At the conclusion of the inquiry the inspector visited the premises.

FURTHER OBSERVATIONS ON THE PNEUMOTHORAX TREATMENT OF PHTHISIS.

BY CLAUDE LILLINGSTON, M.B., B.C. CANTAB.

SINCE the publication of three papers on the subject in THE LANCET of July 15th, 1911, Forlanini's treatment has steadily gained favour in England, where its popularity suffered from a negative phase long after its establishment abroad. Now it is suffering here from a positive phase which is equally unfortunate, as a careful selection of cases is not always made, and the operation is not always performed with that detailed knowledge and observance of the technique which are imperatively necessary. The induction of an artificial pneumothorax by one whose knowledge of the technique is culled from the brief perusal of a few treatises on the subject shows deplorably vicarious courage. It may, therefore, be advisable at this stage to take stock of this method, to deal with the broad outlines of the rationale, indications for and against, and complications, and to describe in detail some of the steps in the technique which, if misunderstood, may cause sudden death.

Rationale.

Is phthisis benefited by an artificial pneumothorax, and if so, why? All who have observed a certain number of patients thus treated give an affirmative answer to the first question. But it is more difficult to explain why the results are beneficial. There are many more or less plausible explanations forthcoming.

Collapse and compression of the diseased lung must rest it as effectively as a well-applied splint rests a tuberculous knee; in either case auto-inoculation is reduced to a minimum. Another beneficial factor is the expression and drainage of fluid from the lung which, when completely collapsed, scarcely exceeds a normal kidney in size. Even when adhesions prevent complete collapse, a partial pneumothorax may greatly aid the drainage of cavities and the expression of fluid from the whole lung. I have seen several patients the apices of whose lungs were firmly adherent to the chest wall, and whose disease was most evident in the upper half of the lung. Yet compression of the lower half was strikingly beneficial, the daily expectoration diminishing to about one-tenth of the former amount in a few weeks. It is therefore probable that, even if a cavity in the apex is not compressed, the compression of the neighbouring lung aids the drainage of pus which, before compression, flowed over from the cavity into the more dependent portions of the lung. That fluid is squeezed out of the lung is shown by the increase of the expectoration which occurs during the first few days of the treatment.

Another favourable factor is the extensive formation of fibrous tissue around the diseased areas, which thus become securely cut off from healthy tissues. It is important to note that healthy pulmonary tissue does not necessarily become disorganised or permeated by scar tissue even after several years of consistent compression; and when a lung containing both healthy and tuberculous tissue is allowed to re-expand, the expansion is practically limited to the tissues which were originally healthy or but slightly œdematous. This has been repeatedly demonstrated post mortem. It has been recently urged against this treatment that healthy portions of the lung are wasted by compression which fails to act on diseased portions because pleural adhesions prevent their collapse. But this speculative objection is negatived by the post mortem observations already referred to. The assumption lately advanced by a consultant in London that tuberculous foci in the lung are invariably accompanied by adjacent pleural adhesions is indeed extraordinary, for the induction of an artificial pneumothorax has frequently shown that comparatively healthy lung is adherent to the chest wall, while another portion of the lung, occupied by cavities and pneumonic infiltration, is covered by free pleura.

Two other explanations of the beneficial action of an artificial pneumothorax may be briefly mentioned. Carl Goebel[1] has pointed out that as an aerobic organism, the tubercle bacillus grows best in a free supply of oxygen, in

1 Zeitschrift für Tuberculose, 1910, vol. xvi.

the absence of which its virulence is reduced. This accounts for the preference shown by the tubercle bacillus for organs, largely composed of fibrous tissue, in which the process of oxidation is low, and in which a considerable quantity of oxygen is therefore available for the tubercle bacillus. Hence, also, the rarity of phthisis in cases of mitral stenosis in which the lungs are congested with venous blood. The nitrogen, therefore, which is injected into the pleural cavity under a positive pressure may act beneficially through its gradual absorption by the diseased lung, to which the supply of arterial blood is largely reduced by the partial compression of the pulmonary arteries. Other observations which support this view are the benefit to tuberculous peritonitis derived from exploratory laparotomy, which favours venous stasis and absorption of atmospheric nitrogen occur; and the benefit obtained by Kuhn's suction mask, and by Bier's treatment by passive congestion. Several other arguments are advanced by Goebel in support of his view.

The other explanation, for an account of which I am indebted to Dr. Ernest P. A. Mariette, is advanced by Molle,[2] who attributes the success of treatment by an artificial pneumothorax to a trophic excitation of the pneumogastric nerves. He holds that there is a danger of "transferring" the disease to the opposite side in patients whose reflex irritability is abnormally great. He has observed in certain phthisical patients a neuromuscular hemihyperæsthesia at a spot where other physical signs of disease shortly appeared, and which was symmetrically opposite to the original lesion on the other side. He also points out that counter-irritation by the cautery, blisters, or tincture of iodine may cause migration of nervous complications from one side of the body to the other. Patients who react thus to counter-irritants are not, in his opinion, suitable for an artificial pneumothorax, the stimulus of which is likely to "transfer" the disease to the uncompressed lung. Patients, on the other hand, whose reflex irritability is found by experiments with counter-irritants to be low, are suitable for the pneumothorax treatment, provided the disease is more or less unilateral. But, he adds, counter-irritation alone will prove as effective as a pneumothorax in this class of patient. He concludes that the new surgical methods of treating phthisis, and especially an artificial pneumothorax, constitute a special form of counter-irritation whose effects are akin, for good or evil, to those of ordinary counter-irritation.

This theory is ingenious, almost fantastic. But Molle's arguments are too numerous and carefully weighed to be straightway dismissed. I have seen two patients whose disease was practically unilateral, and on whom several attempts to induce an artificial pneumothorax failed on account of pleural adhesions. The apparent failure of the operation greatly depressed the patients, who thought their last chance of recovery was lost. But both improved rapidly, and one is now walking ten miles a day two years after the attempt to induce an artificial pneumothorax. Both these patients were desperately ill.

Though not prepared to dismiss the two latter explanations as mere speculative conjectures, I hold that immobilisation and drainage of the diseased lung are the chief causes of arrest of the disease. The objection has been raised that if collapse and rest are beneficial to the diseased lung, the extra work thrown on the other lung must injure it. But, as Saugman has pointed out, the two lungs are simultaneously treated by different methods. Under ordinary sanatorium treatment patients with active disease are kept strictly at rest, while patients with slight and afebrile disease are exercised. Similarly, with the pneumothorax treatment, the severely diseased lung is given absolute rest, while the slightly diseased lung is exercised.

Indications for and against the Treatment.

The present attitude of many general practitioners and consultants towards the treatment is one of blank ignorance or of horror and contempt. To them an artificial pneumothorax is identical with a spontaneous, accidental pneumothorax with its concomitant distress and risks of sepsis. Yet the former can be induced so gradually that the patient is put to little discomfort, dyspnœa, or pain; and, if necessary, the gas can be withdrawn from the pleural cavity, and *status quo ante* restored in a few minutes. Patients are frequently either warned against the treatment, or they are recommended it when moribund, and when the disease is extensive in both lungs. To induce a pneumothorax when moist sounds are audible everywhere over both lungs is to hasten the patient's death and to bring the treatment to disrepute. Yet half the patients in whom I have been requested to induce an artificial pneumothorax belong to this category.

The condition most suitable for the treatment is extensive disease of one lung, little or no disease of the other. But there are also many other suitable conditions. For instance, the disease may be limited to the apices of both lungs, but compression of one lung becomes an urgent necessity on account of recurrent and severe hæmoptysis. Again, one lung may be practically healthy, and the disease in the other may extend only from the apex to the third rib in front, and to the spine of the scapula behind; yet if this condition has persisted for over a year in spite of sanatorium and tuberculin treatment, and the patient is incapacitated, an artificial pneumothorax may be the best treatment. Sometimes half of each lung may be involved, and the patient may be going downhill in spite of ordinary treatment. The experienced physician who has watched such a case for several months can often give a shrewd estimate of the activity of the disease in each lung, and if he finds it practically stationary in one, the compression of the other may give strikingly good results. Dr. Jane Walker has kindly shown me a patient who developed a spontaneous pneumothorax which she is maintaining by injections of nitrogen. The patient is rapidly improving, although more than half his uncompressed lung is affected; here, therefore, the disease is evidently stationary.

Often only after a pneumothorax has been induced is it possible to estimate the degree of activity of the disease in the healthier lung. Whenever the disease in this lung is slight but active, the pneumothorax on the other side must be gradually induced, so as not to throw a sudden excess of work on the uncompressed lung. It should also be remembered that slight movements by a patient breathing with one lung only are equivalent to violent exercise by the possessor of two healthy lungs. It is, however, extraordinary how much exercise can be taken by patients accustomed to harbouring a pneumothorax, and I have sprinted to catch a train when I boasted a large pneumothorax. But till the healthier lung has proved its capacity to do the work of two, it must be watched with the vigilance of a cat at a mouse-hole, and absolute rest must be prescribed as soon as danger signals, as a rise of temperature or other physical signs, appear. If the healthier of the two lungs shows recent signs of disease, such as a pleuritic rub combined with fever, the induction of a pneumothorax on the other side should be deferred till this condition has subsided, even if the healthier lung appears in other respects to be normal.

It is the exception for the pleural surfaces to be adherent throughout, even in old-standing cases complicated by repeated attacks of pleurisy; and I have only in 15 per cent. of my cases failed to induce a pneumothorax on account of adhesions. But it is often difficult to find a point where the pleural surfaces are free, and from which the intrapleural pressure may be raised till soft and recent adhesions elsewhere give way. When once a small pocket of nitrogen has been formed between the pleural surfaces, it is often astonishing how, with frequent small injections of nitrogen, this pocket may be enlarged till almost all the adhesions have given way.

So far from being a contraindication, tuberculous laryngitis is, *ceteris paribus*, an indication for the treatment which favours its arrest by reducing cough and expectoration and by improving the general condition. Dr. S. V. Pearson's success at Mundesley Sanatorium with a case of severe laryngeal disease combined with almost unilateral pulmonary tuberculosis has been most striking with this treatment. It is unlikely that the life of a patient suffering from intestinal tuberculosis and persistent diarrhœa can be appreciably prolonged, even if the pulmonary disease be arrested by a pneumothorax. It is deplorable how many patients ultimately die from tuberculosis of the intestine, kidneys, meninges, and other organs whose pulmonary disease was found at the necropsy to be completely arrested by an artificial pneumothorax. In most of these cases the disease had lasted for several years before the pneumothorax was induced, and it is certain that when this

[2] Presse Médicale, Jan. 27th, 1912.

treatment is adopted earlier in the disease, the tale of fatalities due to tuberculosis in organs other than the lung will be appreciably diminished.

Complications and their Avoidance.

Much has been written about pleural reflex and gaseous embolism, the two causes of sudden death during the operation. With care, both risks are negligible. The risk of pleural reflex is reduced by injecting eucaine or stovaine into the pleura. Two points in this connexion are important. The solution of anæsthetic must be concentrated so that only a little fluid escapes into the tissues; otherwise fluid in the track of the pneumothorax needle will fill its lumen, and thus prevent the registration by the manometer of changes in the intrathoracic pressure. If the operator holds the hypodermic needle lightly he can also probe with it to ascertain the pleura's exact depth from the surface and its state, whether it be thickened or not. I usually inject eucaine at three or four different points in the chest, and select for my first puncture with the pneumothorax needle that point at which the hypodermic needle has encountered least resistance. Unfortunately, however, firm pleural adhesions sometimes exist even where the exploring hypodermic needle has encountered but slight resistance.

Sudden death from gaseous embolism continues to occur, as recent publications show. But, as indicated by the following case recently published by Balvay and Arcelin,[3] these deaths may be the operator's—and not the operation's—fault. The patient had acquired a fairly large artificial pneumothorax, but her lung was still adherent to the chest wall in places. On introducing the pneumothorax needle at a different point from that at which the first injections had been given, the operator failed to obtain characteristic manometric oscillations. In spite of this ominous warning the gas was introduced under considerable pressure. The patient immediately became unconscious. She coughed up blood, and in 48 hours she was dead. The needle had been introduced over the site of an adhesion which held a portion of the lung to the chest wall, and thus gas was forced into a pulmonary vein.

A similar accident may occur even if the pneumothorax is complete and no pleural adhesions exist, if the operator is careless enough to ignore a motionless manometer. For the needle may catch in a blood-vessel superficial to the parietal pleura, and with this vessel impaled on ts point, it may invaginate the parietal pleura without puncturing it, and may reach to the depth at which the operator on previous occasions has penetrated to the pleural cavity, and has obtained characteristic oscillations. He may now argue that he is working at the right depth, and that no manometric oscillations appear because the needle has become obstructed by a small particle of tissue in its transit through the chest wall. He therefore proceeds to blow out this hypothetical particle by forcing gas through the needle. The result is more instructive to himself than advantageous to the patient.

Gaseous embolism may happen in yet another way. During a first injection the operator thrusts the needle through the chest wall till characteristic manometric oscillations show that its point is in the pleural cavity. He now holds the needle securely at this depth lest it should pass deeper and penetrate the visceral pleura. But though neither the patient nor the needle has apparently been moved, the oscillations may suddenly cease, owing, as a rule, to the parietal pleura having slipped over the point of the needle, which consequently is again superficial to both layers of the pleura. The operator who, because he has once obtained typical oscillations, and because he thinks the needle has not moved since, injects nitrogen in the face of a motionless manometer, will sooner or later have a sudden death to explain.

It follows that however secure the operator may feel, his only safe course is to watch every movement of the manometer, and to cut off the gas as soon as satisfactory oscillations cease. When, hour after hour, he has tried in vain to obtain satisfactory oscillations by puncturing in several places, the temptation to "shove in gas and see what happens" is great. Cases have, in fact, been recorded in which no oscillations were obtained till a little gas had been forced into the pleural cavity, after which typical oscillations appeared. By this procedure hopelessly ill patients have regained their health; but the risk entailed is considerable, even when the needle is aspirated to ascertain the presence of blood in its lumen before any gas is injected. No novice should attempt this method.

Results.

In such a chronic and capricious disease as phthisis an estimation of the value of any form of treatment is worthless unless the number of patients treated is considerable, and the improvement effected has stood the test of time. My experience, therefore, with 18 patients treated for periods ranging from 6 months to 3½ years, is insufficient *per se* to build pretentious claims on, and I will but briefly touch on the following points. The disease was in the third stage and active, and the prognosis was very bad in every case. Yet the disease is either arrested or is undergoing arrest in 13. Five patients are either dead or dying; but I sincerely believe that the treatment has prolonged their lives. I have seen no fatal accident from the treatment.

More valuable are Dr. L. Spengler's results, for they have stood the test of a longer probation period.[4] He has excluded all recent cases, confining himself to those in which a pneumothorax had been induced nine months to four years earlier. As evidence of arrest of disease he adopted the following conditions: absence of pyrexia, cough, and expectoration; if the latter be present, it must not contain tubercle bacilli. Fifteen patients fulfilled these conditions, and were also capable of a full day's work. In 12 of these the prognosis before the operation was almost hopeless, and in the remaining 3 it was very bad. Dr. Spengler considers that these results are a satisfactory answer to the objection that though a pneumothorax may cause temporary improvement, it does not often enough produce permanent results to warrant the risk of operation. A useful review of recent literature on the treatment is given by Dr. W. T. Ritchie,[5] who has collected the results of several workers in this field. Interesting original articles on this subject have also lately been published by Dr. S. Vere Pearson[6] and Mr. Hubert Chitty.[7]

Gorleston-on-Sea.

[3] Archives Générales de Médecine de Lyon, May 29th, 1911.

[4] Münchener Medizinische Wochenschrift, Feb. 28th, 1911.
[5] Edinburgh Medical Journal, July, 1912.
[6] Brit. Med. Jour., Oct. 12th, 1912.
[7] Medical Press and Circular, Nov. 13th, 1912.

A CASE OF

COMPLETE ERADICATION OF EXTENSIVE RECURRENT CANCER AFFECTING BOTH BREASTS AND AXILLÆ;

DEATH 15 YEARS LATER FROM HEART DISEASE AND DROPSY AT THE AGE OF 82 YEARS.

BY R. CLEMENT LUCAS, B.S. LOND., F.R.C.S. ENG.,
CONSULTING SURGEON TO GUY'S HOSPITAL AND TO THE EVELINA HOSPITAL FOR CHILDREN; MEMBER OF THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS AND OF THE EXECUTIVE COMMITTEE OF THE IMPERIAL CANCER RESEARCH FUND.

IT is not only by the consent, but also by the desire, of the relatives of this patient that I publish the details of her case, and its publication may perhaps assist other surgeons to persuade their patients to avail themselves of the only known means of cure for cancer, rather than gamble away their only available chance of safety by resorting to useless methods of treatment so temptingly put forward by designing persons, who play upon the fears and encourage the natural dread that everyone feels at the idea of having an operation performed.

E. J. was a patient of Mr. J. A. Hosker, of Boscombe, Bournemouth, and she had been operated upon some years before I saw her by a Bournemouth surgeon, who had amputated her left breast for cancer, but had not carried his incision into the axilla to clear away the lymphatics in that situation. In the interval between the operation and the recurrence of the disease the operating surgeon had died, and this fact may have made the patient hesitate some time before consulting her own medical man as to her tumours when recurrence took place. She, however, had a nephew in our profession, Mr. W. Watkin Leigh, of Treharris, who at one time had been my dresser at Guy's Hospital, and

through him, with the consent of her own medical man, she came up to London to consult me in the year 1897.

I saw the patient first on August 23rd, 1897, when she was a widow, 67 years of age. She was a somewhat slight but a very active, energetic, and healthy looking woman. She had suffered from bronchial asthma, and on this account had resided during the previous 15 years at Bournemouth. For some months she had noticed a hard lump, about the size of a nut, in the outer axillary side of her *right* breast, but had paid little heed to it, as it had caused her no pain; still, she became anxious from recollection of the operation on her left breast. When examining her my attention was first directed to the *left* side, to discover if any recurrence had taken place in the direction indicated by the previous operation. The scar was healthy, but I soon discovered under the edge of the pectoral muscle a thickened lymphatic chain which led to a hard lump of the size of a walnut in the left axilla, clearly indicating recurrence of the original disease in the axillary glands on that side. Proceeding to examine the *right* side, a hard tumour of the shape of a large almond was felt at the upper and outer part of the right breast, in that situation where the breast tissue (as I have elsewhere pointed out) is weakened in its resistance by the friction of the upper edge of the corset. On raising the breast slight dimpling was noticed opposite the tumour, indicating that it was attached to the skin, and on carrying the hand into the axilla it was easy to feel enlarged and hardened glands in that situation. As the result of this examination it was clear that recurrence of the disease had taken place in three situations. That which was much advanced and largest, though the patient had not noticed it, was the glandular enlargement in the *left* axilla, the side on which the breast had been previously amputated. Here we had one large hard mass, and several smaller glands could also be felt. The tumour in the *right* breast had also existed a sufficient time for the infection of the right axillary glands, enlargement and hardening of which could be readily detected by the fingers. In consequence, I wrote to her local medical advisers, maintaining that it would be useless to attempt any operative procedure unless it were agreed that I should attack the growth and eradicate it wherever it could be detected, and that this involved a detailed dissection of both axillæ as well as removal of the remaining breast. I further stated that from examination of the patient I thought she would bear this tax on her strength if she could be persuaded to sumbit a second time to operation.

The operation.—The patient having given her consent, I operated on Sept. 9th, 1897, assisted by Mr. Hosker, Mr. Leigh, and Mr. A. H. Vernon, who acted as anæsthetist. The patient was first placed on her right side, and the left arm being abducted I carried my incision from the old scar across the hollow of the axilla, carefully dissecting out the lymphatic tract, areolar tissue, deep fascia, and part of the pectoral muscles leading up to the axilla, then made a complete clearance of the whole of the areolar and lymphatic contents of the axilla, being careful to remove the two subclavian glands, which, I think, are often missed and the cause of the cervical glands subsequently becoming infected. All bleeding points having been secured, the wound edges were temporarily brought together and covered by a large sterilised pad. The patient was next rolled over on to her left side, and, the right arm being abducted, the right breast was excised through a wide elliptical incision, and the incision being continued up and across the arch of the axilla the infected glands and all the areolar pad of the axilla, together with the subpectoral lymphatic course, were removed with the same care as on the left side. All bleeding vessels having been secured, a large sterilised pad was placed over the wound and the patient was turned back on to the right side. There being now no oozing from the left axilla, the edges of the wound were united by a continuous sterilised horsehair suture and sterilised dressings were applied. On the right side a couple of deep salmon-gut sutures were used to bring the skin together where the breast had been removed, and then a continuous horsehair suture to completely close the skin edges.

The double operation had one advantage from an operative point of view, for while the second operation was being performed the wound of the first was temporarily brought together and covered with a sterilised pad, so that by the time the second operation was completed one could be sure there would be no further oozing from small vessels and the wound was completely closed. Again, whilst the first operation wound was being sutured, the other side was resting on sterilised pads, and, these being removed, the wound of the second operation was sewn up with a continuous suture, no drainage being provided for on either side. I learnt from Mr. Hosker that complete primary union took place on both sides without any fever, and that he removed the sutures about a week later.

Microscopic examination of the growths removed showed them to be composed of scirrhus cancer.

Convalescence was very rapid; about a fortnight after the operation her medical attendant sent the patient out for a drive in her carriage.

On Feb. 6th, 1900, about two years and a half after the operation, the patient came up to consult me about a slight swelling on the outer side of the left leg, which I thought due to the plugging of a varicose vein dependent on a gouty phlebitis. There was slight eczema below, but she attributed this to a liniment she had applied. She gave me an opportunity of thoroughly examining her chest, neck, and axillæ, but I could find no trace of any recurrence of the growth. She had the appearance of perfect health.

On June 21st, 1906, the patient consulted me again, being then 76 years of age, and extremely active and well. She had come up chiefly to arrange the electrifying of her house at Bournemouth, but was suffering from slight gouty eczema of the forehead and legs, and looked in to see me. She again gave me an opportunity of completely examining her, when I found the scars perfect, and there was no evidence of any recurrence of the growth. This was nine years after the operation.

On Sept. 13th, 1911, a letter from Mr. Hosker informed me that his patient had kept wonderfully well until three years previously, in spite of losing a large part of her means. About this date she had a very severe attack of cardiac failure which was relieved by frequent subcutaneous injections of strychnine. Her pulse never fell below 86 or 90 after this illness, and she became subject to frequent and severe attacks of cardiac asthma. There was no indication of any return of the disease. About this time the patient wrote to me a note of gratitude, and expressed herself as being "fairly well."

The patient died on June 18th, 1912. Mr. Hosker kindly sent me the following account of her last illness: "Mrs. J. ran down somewhat suddenly at last. You will remember when I last wrote she was subject to attacks of cardiac asthma. These became more frequent, although perhaps not so long or severe, and on June 3rd I found her legs much more swollen than usual, with some ascites, and weaker cardiac action. Then followed more dropsy, and she died on June 18th."

Wimpole-street, W.

MUCOCELE OF THE ANTERIOR ETHMOIDAL CELLS.

BY EMMANUEL C. ALLES, M.R.C.S. ENG., L.R.C.P. LOND.

(From the Clinic of Professor Fuchs, Vienna.)

FOR several reasons the following case has been considered sufficiently interesting and instructive to merit publication, and I have undertaken the task at the suggestion of Professor Fuchs—firstly, because of the rarity of the case, together with its unusually long duration; and, secondly, because of the difficulty it gave rise to in arriving at a correct diagnosis—a difficulty which was not by any means lessened even by calling to our aid those modern methods which we have at our command—namely, X rays, transillumination, &c. The fact that the case unfortunately ended fatally does not in any way rob it of any of its interests; indeed, it contributes a third argument for publishing it, because of certain disclosures which were revealed by the post-mortem examination and which struck those of us who were present as very interesting and instructive.

The history of the case was as follows. A healthy well-built man, aged 25 years, presented himself at the Eye Clinic with a well-marked exophthalmos of the right eye. From his past history it was elicited that he had scarlet fever when 3 years of age, and the exophthalmos is said to have occurred soon after this, and to have persisted ever since. There was also an alleged injury to the right eye: the patient whilst falling

struck it against the edge of a chair. Sixteen days before we saw him he had a contusion of the right eye, and the condition became worse after that. He was deaf and dumb, which fact is a great drawback in obtaining a detailed history.

On examination the right eyeball is found to protrude forwards as well as outwards, as shown by a greater distance from the middle of the bridge of the nose to the inner canthus of the right eye as compared with the opposite side. The caruncle of the right eye is prominent. The palpebral fissure is 4 cm. long and 3 cm. wide. The skin of the lids and of the surrounding parts is normal; no venous stasis in the skin over the tumour. There is no injection of the eyeball or of the palpebral conjunctiva. *On palpation* a hard mass is felt at the junction of the upper and inner wall of the right orbit, which seems to originate from the inner orbital surface. The surface of the swelling is nodular; it is firm over the greater part of it, but over a small area at the upper part of the swelling it is softer and seems to fluctuate. The swelling is immovably fixed to the bone from which it springs. The inner edge of the tumour is not sharply defined, its margin being continuous with the nasal bone and the nasal process of the superior maxilla. The outer margin of the tumour, on the other hand, is well defined with a hard nodular sharp margin. The tumour is 2 cm. wide and 2 cm. long. There is no pulsation in the tumour itself. The skin over the tumour is unchanged and is quite movable over it. Pressure on the tumour at a certain spot causes a sharp shooting pain along the right supraorbital nerve.

Eye phenomena.—The movements of the eye are good in all directions. There is no diplopia. The movements of the lids are also good, the eyeball being completely covered on shutting the eyes. The protrusion of the eye forwards measures 11 mm. The eyeball is not injected. There is no venous stasis of the eyeball or conjunctiva. The anterior chamber is of normal depth. The cornea and iris are normal. The cornea is not xerotic. The pupil is normal and reacts well to accommodation and to light both directly and consensually.

Vision: R.E. = 6/36; L.E. = 6/9 ? plus 0·5 Hm. = 6/9. Ophthalmoscopic examination showed normal fundi; the right fundus is but slightly hyperæmic, with the margins of the optic disc slightly blurred, The tear-passages are normal; there is no epiphora. The right side of the nose is blocked.

Subjectively, the patient complains of a dull ache over the side of the tumour, and sometimes of a neuralgic pain referred to the vertex along the right supraorbital nerve.

Special Report by Docent Dr. Neumann.—"The right middle turbinate is hypertrophic and is pressed to the septum by the large bulla of the anterior ethmoidal cells. In the middle meatus a little pus is present. The left ear shows changes due to an old otitis media. The right ear presents changes characteristic of chronic adhesive otitis. Diagnosis: chronic empyema of the anterior ethmoidal cells secondary to a tumour, which probably is of the nature of a cholesteatoma."

X-ray showed a small skull, 3 mm. in thickness, with its inner surface uneven; sutures are present. Frontal sinus clear on both sides. The right ethmoid is not clear (i.e., slightly opaque); the left ethmoid is moderately clear. From the right ethmoid a tumour seems to originate which pushes the inner wall of the orbit outwards (i.e., to the temporal side). This tumour protrudes into the uppermost part of the maxillary sinus.

Operation.—By Professor Fuchs on Feb. 11th, under chloroform. The right posterior naris was plugged with gauze, introduced by a Bellocq's sound. A curvilinear incision of about 6 cm. in length was made on the right side down to the bone, beginning from just below the eyebrow at the supraorbital notch, and extending downwards and outwards midway between the inner canthus and the side of the nose. The skin, fasciæ, and periosteum were divided, and all the soft parts were peeled off the bone by means of a rugine, thus exposing the os planum of the ethmoid. The os planum was chiselled through and the anterior ethmoidal cells entered into when a brownish-coloured, semi-gelatinous fluid poured out. The anterior and middle and posterior ethmoidal cells were curetted and their cavities thrown into continuity one with the other. An aperture was found communicating with the frontal sinus, and this aperture was then enlarged and the cavity of the sinus gently curetted. All necrotic bits of bone were removed. The hæmorrhage was very moderate. At the close of the operation there was present one large cavity draining freely by means of a very large aperture into the nose. The orbital plate of the frontal bone separating the nose and its accessory cavities from the brain seemed quite intact. The large cavity was now gently plugged with gauze. The skin wound was diminished by a few sutures, leaving the lower part of the wound open for drainage purposes. The patient was removed to the ward with a good pulse and everything else also being satisfactory.

On the following day (Feb. 12th) his temperature was normal until 10 A.M. At 10 A.M. it rose to 38·2° C. The tampon was removed from the posterior nares. At 2 P.M. the temperature was 39·8°. There was slight bleeding, but not serious. At 8 P.M. the temperature was 37·8°. On the 13th, at 6 A.M., the temperature was 40°; convulsions occurred for the first time. An injection of camphor given. Pulse strong. At 6.30 A.M. pulse fast and intermittent. At 7 A.M. patient died.

Post-mortem report.—There was suppurative meningitis extending over the right hemisphere, the organism being the diplococcus lanceolatus, there being extensive subdural exudate, also exudate in the leptomeninges. It showed an operation for a mucocele of the right ethmoidal cells made two days ago. There are some fissured fractures of the *paper-like* orbital plate of the frontal bone (on the right side only). There are several fissures on the medial side in front of the crista galli, one of them extending into the middle of the sella turcica. In the region of the fissures a flat, compressed hæmorrhage 1 cm. in diameter lay extradurally. The blood was clotted and attached to the bone. There was a status thymico-lymphaticus. The thymus weighed 25 grm. There was extensive hyperplasia of the lymph follicles of the posterior part of the tongue, also of the lymph follicles of the lower part of the ileum. The splenic follicles were hyperplastic and the spleen itself was very much enlarged. In consonance with the extensive widespread lymphatic hyperplasia there was found a very long appendix, which was 13 cm. long. Bony and muscular developments are good. Heart and lungs are normal. There is a punctate degeneration of the intima of the aorta.

Remarks.—Mucocele of the ethmoidal cells alone, without any of the other sinuses being affected at the same time, is rare. Again, acute or subacute purulent sinusitis of the ethmoid is more frequent than are chronic degenerative inflammations. As to the causes of a mucocele there are two: it may be either caused by a chronic catarrhal inflammation of the mucous membrane lining the sinus, the ostium of which has become previously occluded; or it may be due to an occlusion of one of the ducts of the glands of the lining mucous membrane, and consequent dilatation of it. The contents of a mucocele consist of epithelial cells, blood corpuscles, and fluid containing mucin.

Of the many *causes* of sinusitis there is one that follows the exanthemata (especially influenza), and in this case we can put down the cause as being due to scarlet fever. The increase of the exophthalmos following the trauma may have been due to a hæmorrhage into the mucocele. Another interesting fact is the very long duration of the case, which is said to have begun when the patient was but 3 years old.

As regards the *symptoms* the patient had very few, only a dull ache over the tumour and an occasional supraorbital neuralgia. There was no history of any discharge from the nose. The protrusion of the eye as far as 11 mm. means a stretching of the optic nerve for an amount a little less than the above figure. This stretching of the optic nerve may account for the impairment of vision of the right eye, which was 6/36, since there were no errors of refraction to account for the diminution of sight and the fundus, too, seemed normal. Although the fundus itself looked normal a central scotoma, perhaps together with an increase in size of the blind spot, may have been present, but subjective examination on this point was impossible as the patient was deaf and dumb. Although the patient had no diplopia when he came under observation, yet we may assume that he suffered from it when the exophthalmos first appeared, and that later on he had learnt to suppress the false images, and consequently the right eye had become amblyopic. This amblyopia may have been a second reason for the defective vision of the right eye.

Diagnosis gave some trouble. The most apparent diagnosis, both from the point of view of the hardness of the swelling and its long duration, was certainly osteoma. This was supported to all intents and purposes by the X ray picture. The specialist on nasal diseases, on the other hand, suggested cholesteatoma. He is in entire agreement with us as to the rarity of a mucocele of the ethmoid alone. The direction of the proptosis varies according to which of the air sinuses is affected; in sphenoidal affections the proptosis is forwards without any vertical or lateral displacement, in ethmoidal affections it is forwards and outwards, and in frontal disease it is forwards and downwards. In our case the proptosis was forwards and outwards, indicating an affection of the ethmoidal air cells.

The prognosis of ethmoidal sinus disease is less hopeful than those of the other sinuses, owing to its proximity to the cranium and its contents. This is particularly to be remembered. Sometimes the orbital plate of the frontal bone is unusually thinner than normal. The post-mortem examination showed this uncertainty, in that it revealed a very thin and translucent paper-like orbital plate. The fissures in the orbital plate, which undoubtedly could not have been avoided by the gentlest of operators, must have been caused by the concussion produced by the chiselling of the neighbouring bones in the course of the operation. Again, be it remembered that one cannot sterilise the nose or any of its accessory cavities, so as to completely clear them of organisms, by any of the usual methods in vogue. Any unfortunate circumstance, therefore, which tends to throw the cranial cavity into communication with the nose and its sinuses, swarming as they are with infective material, must end in suppuration of the cranium and its contents.

For operating upon the ethmoidal cells there are four recognised routes: (1) *viâ* the nose; (2) *viâ* the frontal sinus; (3) *viâ* the maxillary sinus; and (4) from the outside. This last route was chosen here, and presents certain advantages over the others in that it gives a direct approach to the ethmoidal cells, and gives a good view to the operator. Moreover, it enables him to explore the other sinuses and to deal with them adequately if they are found to be diseased, while it affords good drainage.

I must express my thanks to Dr. Gutzmann for the help which he has given me in making the translation of the German notes.

Vienna.

A CASE OF ACUTE NASAL CATARRH

DUE TO A GRAM-NEGATIVE BACILLUS RESEMBLING THE "DISTEMPER" GROUP OF ORGANISMS.

BY A. H. GRANT MACKINTOSH, M.B., CH.B. EDIN.,
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DURING an investigation extending over a series of cases of catarrh of the nose and throat I have frequently been struck by the number of atypical forms of well-known organisms which one can isolate from the pus in these cases. It is not often, however, that one sees a special organism so abundantly present as to give it the merit of causing the condition solely by itself. In this case it seems more than probable that the entire set of symptoms were due to one organism, a Gram-negative bacillus resembling the "distemper" group of organisms.

This bacillus was isolated from a patient complaining of the symptoms of an acute febrile catarrh. There were pains and aching in the back, head, and limbs, with loss of appetite and sweats. He complained chiefly of his nasal condition. From both nasal orifices there was a discharge of thin watery mucus, and the lining of the nostril and turbinals were congested and inflamed in their entire extent. Added to this were severe sneezing and watering of the eyes. Taking as much care to avoid contamination as possible, some of the nasal discharge was removed in a sterile swab for examination. After inoculating sterile blood serum tubes smear preparations were made on glass slides and examined for micro-organisms. It was observed that a large number of ordinary pus cells were present with an abundance of bacilli as well; these lay free for the most part between the cells, but some of the cells showed them in their interior, indicating phagocytosis. These bacilli appeared to lie as a rule in twos, and varied considerably in size, although presenting similar features. A Gram-stained film revealed the presence of a few bacilli of the Hoffman type, a very few cocci, and a great number of Gram-negative bacilli arranged as described.

The cultures were examined after 24 hours' growth. A uniform white smear appeared on the surface of the blood agar, thicker towards the edges. Film preparations revealed mostly Gram-negative bacilli as in fresh smear, a few Hoffman bacilli and a few chains of streptococci. An agar plate was next inoculated in the usual manner, and by this means a pure culture of the bacillus was obtained. It grew well in all the media aerobically.

The following is a description of the organism as to its morphology, &c., as it appeared after 24 hours' growth in nutrient bouillon. It is a Gram-negative bacillus varying considerably in length from almost a coccal form to a filamentous form, the medium-sized variety being the commonest, the length of organisms measuring from 1μ to 5·5μ. It did not stain equally in its whole length, but exhibited polar staining, most marked towards the ends. The longer forms were often distinctly curved and appeared thinner than the shorter ones. The bacillus had a tendency, particularly in the shorter ones, to lie in pairs end to end. No capsule was observed either in smears or in bacilli from cultures. It stains easily with all stains, but lost the stain in Gram's method. The organism was examined from different media for motility, but no definite motility was observed.

Gelatin.—Stab culture. After 24 hours good growth in depth of a pointed sheath-like character, no growth on surface. After three days a slight growth on surface, tending to spread from centre in rays. No gas production nor liquefaction of medium.

Agar growth.—Growth a white smear, moist in character, showing in places isolated colonies, which were rounded and heaped up. The consistence of growth was soft, and small portions removed with great ease. (Figs. 1 and 2.)

In bouillon bacillus caused a uniform turbidity, with white deposit at bottom of tube, and slight white scum at top.

Growth on Sugars.—Glucose taurocholate and litmus. Slight acid production with gas.

Lactose.—Marked acid and gas production.

Litmus milk.—Acid production, but no coagulation.

Peptone solution.—There was no production of indol either after one, three, or several days.

Potato.—On this medium an interesting growth was observed. After 24 hours' incubation at body temperature there was a complete brown discoloration of the surface of the potato, and on this rested a copious growth of rounded white colonies aggregated here and there into clumps. After several days' observation no further change was noticed on this medium.

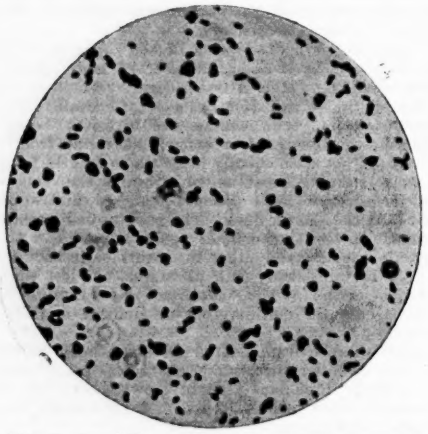
The organism further grows well under anaerobic conditions, but not so luxuriously as under aerobic. The bacillus lives well, standing exposure to light and cold for long periods. After three months cultures kept at room temperature were found living, and grew well when re-inoculated on to fresh media.

A series of inoculation experiments were next carried out with this microbe. The first animals used were guinea-pigs. Two of these were injected, one intraperitoneally and another subcutaneously at the same time. The strength of the emulsion used for injecting was two loopfuls of an agar slant of 24 hours' incubation in 10 c.c. of nutrient broth. Five c.c. were injected into each animal. The guinea-pig, which had been injected intraperitoneally, was found dead at the end of 24 hours. Death appeared to be due to a rapid form of septicæmia, and the organism was recovered in pure culture from the peritoneal fluid, omentum, spleen, and heart blood. The other guinea-pig did not seem much affected by the injection, and after a week's lapse was killed and examined. The only condition discovered was an abscess at seat of subcutaneous injection; there were no changes observed in any organs.

Chief interest attaches to the inoculation performed on rabbits. Strong healthy rabbits were used and injected intravenously with small doses of the bacillus similar to those given to guinea pigs. There was no obvious effect whatever. After immunising a rabbit in this way the whole of the growth of a recent agar slant was injected suspended in 10 c.c. of broth into one of the auricular veins. After an

incubation period of 16 hours, during which the rabbit was closely observed, the animal commenced sneezing and watering at the eyes. A copious discharge flowed from both alæ nasi. The animal appeared much distressed, and the sneezing recurred in severe paroxysms very frequently, followed by great weakness. Smears of discharge from nose on slides showed the bacillus present in large numbers, and pure cultures were easily obtained. The blood agglutinated the bacillus in high dilutions, both from the original

FIG. 1.

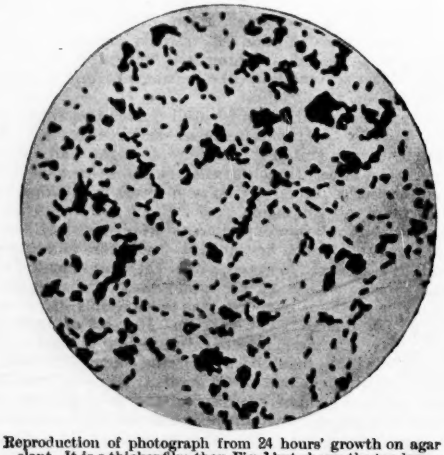


Thin film from 24 hours' growth on agar slant, showing the bacilli mostly arranged in pairs.

strains and that obtained from rabbit. The discharge and sneezing lessened in a few days, and the general condition also improved. After an interval of ten days the rabbit appeared quite well and was then killed. No trace of disease was observed in any organs, nor did the blood reveal any organisms present. An attempt to get organism from nose failed. Evidently the animal had quite overcome the disease.

Several other rabbits were also injected, and it was found

FIG. 2.



Reproduction of photograph from 24 hours' growth on agar slant. It is a thicker film than Fig. 1 but shows the tendency to bipolar staining in bacilli. Neither of the films show the long forms of bacilli so well as cultures grown in broth and liquid media.

that with large initial doses the animal rapidly succumbed to septicæmia of the hæmorrhagic type. Only when very small initial doses were given, and then followed after a sufficient interval by a large dose, could the interesting condition above described be obtained. Further, some of the rabbits showed no result at all even when this method was followed.

The bacillus is undoubtedly one of the group classified by Hueppe[1] in 1886, and named the bacilli of hæmorrhagic septicæmia. Many organisms closely resembling it have been described under the name of "distemper" bacilli. Those described by McGowan[2] resemble it very much, except in regard to sugar reactions. The patient from whom the organism was procured, however, had no chance, so far as can be ascertained, of coming in contact with animals infected with distemper. He made a rapid recovery, the course of the disease resembling that of an ordinary cold. Whether the organism is a common cause of such a condition remains to be proved. Among many cases examined this was the only one in which it was found.

In conclusion I wish to express my best thanks to Professor J. M. Beattie for many valuable suggestions, and to Dr. A. G. Yates for kindly assisting me in the inoculation experiments. The type slides from which the photographs were taken were kindly prepared for me by Mr. R. Tucker, of the bacteriological department.

Sheffield.

A METHOD OF RAPIDLY EXTERMINATING PEDICULI CAPITIS.

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ALTHOUGH pediculosis capitis is extremely common and not infrequently attacks the well-to-do, it is not generally known that the parasites can be exterminated with very little trouble in a short time. The method I am now about to describe has been in use by me for the last 12 years, and was described in the small handbook of skin diseases which I published in 1907. As, however, this description appears to have escaped attention a short note about it for the benefit of others may be worth publication. I was first led to use the method after a conversation with my colleague, Mr. G. Lenthal Cheatle, who suggested to me that probably Lister's "strong mixture" (1 in 20 carbolic solution containing 1 in 500 perchloride of mercury) would be a fatal application to the head-louse. On experimenting with various strengths I finally adopted the following method in the case of female children, where treatment is made difficult by the length of hair.

The patient is laid on her back on the bed with the head over the edge, and beneath the head is placed a basin on a chair so that the hair lies in the basin. A solution of 1 in 40 carbolic acid is then poured over the hair into the basin and sluiced backwards and forwards until the whole of the hair is thoroughly soaked with it. It is especially necessary that care should be taken to secure thorough saturation of the hair over the ears and at the nape of the neck, since these parts are not only the sites of predilection of the parasites but they are apt to escape the solution. The rule I give is that this sluicing shall be carried out for ten minutes by the clock. Lister showed that if the hair is soaked with carbolic acid solution for an appreciable time it takes up the phenol and the solution becomes progressively weaker. At the end of the ten minutes the hair is lifted from the basin and allowed to drain, but is not dried or even very thoroughly wrung out. The whole head is then swathed with a thick towel, or better a large piece of common house flannel, which is fastened up to form a sort of turban, and the head is allowed to remain like this for an hour. It can then be either washed or simply allowed to dry as the carbolic, being volatile, quickly disperses. At the end of this period every pediculus and, what is more important, every ovum is dead, and although the ova are left on the hair they will not hatch and no relapse will take place unless exposure to fresh contagion occurs. Incidentally any impetiginous scabs are softened so that they come away easily and allow any ointment which is used for the cure of this complication to be applied easily. In cases where there is no impetigo no further treatment is necessary.

Many methods have been devised for the cure of pediculosis capitis, and for some of them it is claimed that they will remove or kill the nits, but I can only say that having

[1] Hueppe: Berliner Klinische Wochenschrift, 1886.
[2] McGowan: Journal of Pathology and Bacteriology April and October, 1911.

tried a very large number I have found none but the method described above which really does so.

About eleven years ago I had an epidemic among my own servants, one of whom had immensely thick and long hair. The infection was discovered late on Saturday night, and on Sunday morning this treatment was carried out. Nothing further was done and no relapse occurred.

About a year ago I was asked by a friend of mine, a physician to one of the London medical schools, if I knew of any certain way of eradicating the pest. His little girl had stayed in a farmhouse and had become infected about eight weeks previously. She had been under the care of a specialist, who had tried more than one method, and at the time that he consulted me his wife was combing the child's hair daily with a fine-toothed comb and cutting out any hair on which she could discover a nit, but up to that time unavailingly. I gave him the method, and he told me later that it was applied only once and the case was permanently cured.

I am also allowed by Dr. A. M. H. Gray, of University College Hospital, to say that he has been using it for some time with complete success, and that even in the out-patient department, where home treatment is liable to be carried out rather carelessly, he does not remember having seen a single relapse.

Lastly, I may mention that there seem to be no disadvantages to the method. I have never seen carboluria result from it, though I should not advise it in very young children as it would be simple to clip off all the hair, and it might be risky to use the carbolic, but with children of 5 years and over it is certainly safe. The hair itself is not in the least damaged, but appears particularly soft and silky after it, a fact which Mr. Cheatle mentioned to me years ago.

If this were made the routine treatment of "dirty heads" in the schools the frequency of the disease would, I think, be greatly diminished.

Harley-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF METASTATIC ABSCESS OF THE SCLERA FOLLOWED BY PERFORATION AND PROLAPSE OF THE IRIS.

BY H. PERCY DUNN, F.R.C.S. ENG.,
SENIOR OPHTHALMIC SURGEON TO THE WEST LONDON HOSPITAL.

WHETHER primary suppuration of the sclera ever occurs is held to be doubtful. The meagreness of the literature upon the subject is thus explained. The text-books generally ignore it. To the absence of blood-vessels in the sclera is probably due its immunity from primary suppurative processes. But, on the other hand, this membrane is fairly freely endowed with blood-vessels around the cornea, and where blood-vessels exist there must also exist the possibility of embolic infection. In panophthalmitis, from whatever cause arising, the sclera may perforate at its weakest point—namely, in the neighbourhood of the limbus. But I have been unable to find any recorded case in which endogenous perforation of the sclera due to sepsis has occurred, save in connexion with a suppurating eyeball. The following case was undoubtedly septic. There is nothing which could account for the ocular signs, apart from the assumption that they were due to a metastatic septic focus. The media remained clear throughout and the vision undisturbed. Moreover, the suddenness of the onset of the attack is in keeping with its embolic origin. Again, the signs of the localised lesion were immediately concurrent with the first complaint made by the patient about the eye. The notes of the case, for which I am mainly indebted to the house surgeon, Mr. A. G. Buckell, are briefly as follows.

The patient, aged 40 years, was under the care of my late colleague, Mr. L. A. Bidwell. The man was admitted into the West London Hospital on July 2nd, 1912, with symptoms of strangulation of a right inguinal hernia. The bowels had not acted for 36 hours and no flatus had been passed per rectum. The hernia was partially reduced, and on the following morning tbe bowels acted freely. Further examination of the hernia revealed the presence of a large rounded swelling on the right side of the scrotum, from which the testis was quite separate. The mass was partially moveable, rounded, non-translucent, well-defined below, and with a pedicle running up into the inguinal canal. On the 5th Bassini's operation was performed. The hernia was found to be surrounded by a mass of subperitoneal fat. This mass was dissected out and removed. On the following day a large hæmatoma of the scrotum was observed. Subsequently this increased in size, and two days later was of about the size of a cocoanut and painful, the temperature having risen to 104° F. Later the swelling became tense and tender, and two or three small veins over it spontaneously ruptured. On the 12th, under local anæsthesia, incisions were made into the scrotum, giving exit to much fluid and some blood-clot; temperature 101°. On the 13th the stitches of the hernia wound, which was closed and healthy, were removed. On the 24th large sloughs were coming away from the scrotal wound, which was suppurating freely; temperature 101°.

On July 30th I was asked to see the man. The left eye had suddenly begun to be painful; there was general ciliary and conjunctival injection. In the limbus, in the upper vertical meridian, was a round, yellowish-white swelling resembling in appearance an ordinary phlyctenule seen in phlyctenular conjunctivitis, only much larger. The nature of this swelling was at first doubtful. The cornea was clear, the iris movements were natural, and tension was normal. The inference was formed that in view of the man's septic condition the swelling was probably embolic in origin. Under treatment the eye soon became less painful and the acute injection much diminished. On the other hand, the swelling increased in size. On August 13th it was found to have disappeared and in place of it was a large prolapse of the iris. In other words, perforation of the sclera had occurred. Two days later, the eye being under the influence of cocaine, I excisedthe prolapse. On August 22nd the man was discharged with his wounds healed and the eye well.

Not much more is required to be said in respect to the ocular signs in this case. The facts, I think, fairly establish the conclusion that the symptoms were due to a metastatic abscess of the sclera. The literature of the subject, so far as I have been able to ascertain, does not contain any recorded case in which a similar perforation of the sclera ensued. I saw the man again on Dec. 5th. The eye was quiet, and the vision was 6/9.

Wimpole-street, W.

A CASE OF VERTICAL FRACTURE OF THE PATELLA AND CHARCOT'S DISEASE.

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THE patient, aged 48, was admitted to the Taunton and Somerset Hospital on May 25th last with the following history. Twelve years ago his right ankle swelled suddenly, but it was quite painless, and did not cause him to stop work. He could not remember injuring the joint at all. After six months this swelling disappeared, and his left knee immediately swelled to a considerable extent. This swelling was also painless, and had no injury to explain its presence. The knee had remained swollen more or less up to the time of admission to hospital. Five years ago the right knee also enlarged suddenly and painlessly without injury. The patient remembered that about a year ago he wrenched the left knee and felt something "give," but he did not take much notice of it and continued his work though the knee was stiff for three or four days. He had had sudden pains in the legs, also "girdle pain" sometimes. There was a specific history.

On examination the right ankle was found to be considerably swollen, the swelling being mainly on the inner side of the joint. There was no redness, heat, or pain. No grating could be elicited, and only slight lateral movement was present. There was marked flat-foot, due evidently to the

softening and consequent stretching of the plantar ligaments and fascia from the effusion. The left knee was 14 inches in circumference, and presented all the characteristics of Charcot's disease, with marked grating in the joint. There was also a vertical fracture of the patella which the patient had never noticed previously to the examination. The outer fragment was one inch larger than the inner. On flexion of the knee the fragments moved outward and inward respectively until two or three fingers could be inserted between them. The main part of the ligamentum patellæ was attached to the outer fragment. The right knee had a circumference of 18 inches, and was rapidly approaching the flail-like condition of the disease. There were very coarse grating, marked atrophy of the bones, and commencing loss of control over the movement of the joint. There was total loss of the knee-jerks, and the Argyll-Robertson pupil was present. The gait was due to the condition of the joints and did not resemble the ataxia of tabes.

I am much indebted to Mr. A. R. Iles for permission to publish the notes of the case.

Taunton.

Medical Societies.

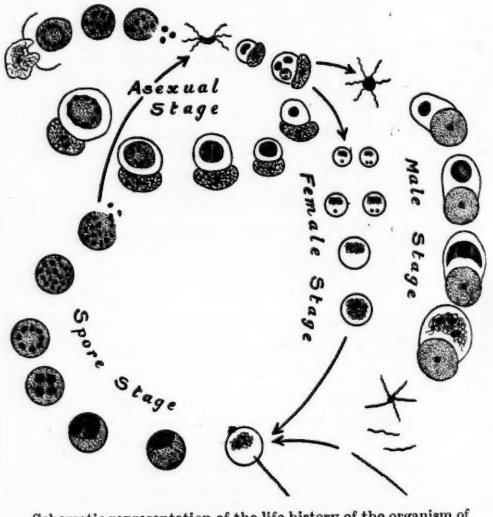
ROYAL SOCIETY OF MEDICINE.

PATHOLOGICAL SECTION.

The Complete Life History of the Organism of Syphilis.

A MEETING of this section was held on Dec. 3rd.

Mr. J. E. R. MCDONAGH read a paper on the Complete Life History of the Organism of Syphilis. He said that the sporozoite when examined *in vivo* remained for some time unstained, but later stained very deeply without its motility being thereby impaired. It was seen in two forms: (*a*) circular, and (*b*) renal shaped; its size was about 1½ microns in diameter, and it was actively motile, and occasionally distinctly flagellated. It could be found in syphilitic lesions, in blood withdrawn from the healthy skin around a chancre, and in the general blood stream during general infection. As it could be found in the skin around a chancre when the spirochæta pallida could not be found in the scrapings from the sore, this was of diagnostic importance. The sporozoite then became intracellular; it made a connective tissue cell its host, and when inside it underwent important changes. 1. It steadily increased in size and by a process of budding gave rise to several bodies which later became differentiated into male and female elements. By this time the cell was a sac as all the reserve material had been used up, but the nucleus still remained, although degenerated, to disappear later, then the sac gave way and freed the male and female merozoites. Not all the freed bodies were sexually differentiated, some being able to start the cycle again by seeking a new connective tissue cell. 2. The sporozoite increased in size, but less so than in the previous case. It then divided into two and again into four. The karyosome disappeared after binary fission. The four masses by further division formed a ring which was arranged at the periphery of the body. By this time the host cell was almost entirely degenerated so that the parasite appeared to have become extracellular, but was not truly so till the host cell was no more. In the centre and around the ring other deeply stained bodies appeared until a perfect spore-cyst developed. This was the true asexual stage, and the two phases described represented the schizogony. The sexual generations developed as follows. The male, circular or oval, was actively motile and flagellated. It entered a large mononuclear lymphocyte and became motionless. Then it increased in size, and later three pear-shaped bodies were visible. The male gametocyte steadily developed until a coil formed. In some of the coils deeply stained structures could be seen, which probably corresponded with the pear-shaped bodies. It was also probable that those bodies seen with spirochætæ radiating from them like spokes of a wheel were further developments of the same structures. In many specimens stained *in vivo* streptococcal-like chains and many free coccal-like bodies were visible. Each coccal-like body consisted of a clear ring which contained two deeply staining rods, one above the other, looking like a diplococcus. These bodies were motile. The rods increased in length, and finally a spirochæte developed. These coccal-like chains and bodies, no doubt, developed from the coils. Another body which left the connective tissue cell was also circular, motile, and flagellated, but was a clear body containing a faintly staining chromatin network at its upper pole and one or two deeply staining rods or dots at its lower. It remained extracellular and was doubtless the female gametocyte. It increased to the size of a red blood corpuscle. The dot or dots at the lower pole of the cell were actively motile and probably blepharoplasts, which later left the cell. The chromatin network increased until it filled the centre of the cell. Such a cell was probably the female gamete and ready for fertilisation. Fertilisation occurred thus. The female cell had attached to it a deeply staining body like a cottage loaf. A spirochæte entered. The whole was in active motion. The cottage loaf became extruded, and was probably the polar body or bodies. The spirochæte which entered became deeply stained and more or less rod-shaped. The chromatic network, now located to one pole, finally became transformed into a deeply staining mass, attached in one part to the circumference of the cell. Such a cell was no doubt a zygote. It could be distinguished from the gametocyte by the fact that the cell was stained. Females could multiply by division—parthenogenesis. The changes in the zygote up to the formation of the spore cyst did not differ from those previously described by him. In early active lesions the sporozoites were best seen. In almost every specimen a coil and spore cyst could be found. In some of the glands he had found little else but coils, as many as five or more in a field. In most specimens the female gametocytes and zygotes were found in greatest number, and it seemed that neither salvarsan nor mercury had any influence upon them. They were equally common in cases free from symptoms as in those with them, and they bore no relation to the result of the Wassermann reaction. The whole life-history of the syphilitic parasite could be followed out in one section from a lymphatic gland which drained the primary sore if removed during the stage of general infection and stained with pyronin and methyl green. Lately he had tried staining films with Giemsa, after fixing while wet in a hot, and then a cold, alcoholic solution of corrosive sublimate, and further treating them before staining with Lugol's solution and sodium thiosulphate. It was laborious, and from a practical point of view could not rival the *in vivo* method of staining with borax methylene blue. He thought he was justified in assigning the organism of



Schematic representation of the life history of the organism of syphilis.

syphilis to the class sporozoa and to the subclass telosporidia. The order was doubtless the coccidiidei, and the species which most fitted it was the leucocytozoon, hence a good name for it would be leucocytozoon syphilis.

SECTION OF OPHTHALMOLOGY.

The Physiology of the Intraocular Pressure.

AT a meeting of this section on Dec. 4th, under the presidency of Sir ANDERSON CRITCHETT, C.V.O., the subject for discussion was the Physiology of the Intraocular Pressure.

Dr. LEONARD HILL, in opening the debate, said the reason Dr. Martin Flack and he appeared before the society was because some researches which they had been carrying out on the relation of the general circulation to secretion led them to investigate the eye. The subject had already been brought before the Royal Society, but there were some new points which he would speak on. For the purpose of measuring the intraocular pressure Dr. Thomson Henderson and he made some experiments, because with the ordinary hypodermic needle they could not avoid leakage in the track of the needle. The result was, they devised a needle which did not permit of leakage. They found, by very carefully checked experiments, that the aqueous pressure varied within fairly wide limits, depending on the blood pressure; the higher the arterial pressure the higher was the aqueous pressure. In one case, under chloroform, it was 16 mm. of mercury, and under ether narcosis, when the animal was in good condition, going up as high as 62 mm. By a compensation method they obtained readings which seemed to agree, so there appeared but little chance of error. It was very important that the pressure of the aqueous should be positive, because that kept the eyeball as a perfect optical instrument. Its distension, in their opinion, was maintained by secretory pressure. Though the pressure varied anywhere between 10 and 50 mm., according to the condition of the circulation, the eyeball retained its shape. The pressure in the capillaries and the pressure of the aqueous must always be the same. In a previous investigation they found that the pressure of the cerebrospinal fluid and the pressure of blood in the cerebral veins was the same, and the two varied together. Various workers had made investigations, and it was found by viewing the retinal vessels with the ophthalmoscope that the flow ceased in them when the pressure reached that of the general arterial blood. Dr. Hill and his colleague punctured the cornea of a cat, and then on gently pressing the abdomen the iris on the same side immediately burst into hæmorrhage; all the capillaries allowed the blood to escape, and that occurred every time. The explanation was that the normal aqueous pressure was exactly counterbalancing the capillary pressure. The aqueous had a definite chemical nature, and its osmotic pressure was said to be higher than that of the serum. Ehrlich demonstrated by the injection of fluorescin that some kind of circulation was proceeding in the aqueous. It seemed, from careful inquiry, that the cribriform ligament was opened up, and thus a passage was made for the fluid into the supra-choroidal space. That transference of fluid would allow accommodation to take place. The suspensory ligament was always taut, exerting elastic traction on the lens and causing it to assume its proper shape. The intraocular tension was said to be due to the elasticity of the lens, but it had no elasticity, for when removed it was a soft, pudding-like body. In the act of accommodation the muscle contracted, but continued to be of the same volume as the uncontracted muscle; on contraction it really moved inwards, as described by Thomson Henderson, and allowed the fluid to pass from in front of the lens either into the spaces of the ciliary body or into the space of the cribriform ligament and into the supra-choroidal space.

Professor E. H. STARLING said that most would agree with the facts which Dr. Hill had advanced, but he was not in close agreement with some of the interpretations which the opener placed upon them. It was important to have some idea of the factors determining the formation and absorption of the intraocular fluid, but more important to know what those factors were. It seemed to be generally agreed that the seat of production of the intraocular fluid was the ciliary processes, and the chief absorption was at the anterior angle of the eye, and some probably occurred at the root of the iris. Covering the ciliary processes was a well-marked epithelium, containing columnar or cubical cells, which might well be endowed with the property of secretion, as they were as well formed as those of the salivary gland or of the kidney tubules. What were the conditions which must be observed if the intraocular fluid was to be regarded as a filtration? The intraocular fluid was at considerable pressure, so there must be resistance against its flow from the eyeball. But if the pressure there was in consequence of the pressure of the blood in the vessels, the pressure of the intraocular fluid must go up with the rise of pressure in the vessels. When the carotid or subclavian artery was obstructed, cutting off the blood-supply from the eyeball, the pressure came down; and it went up again in proportion to the amount of blood one allowed to enter those vessels. One could take 25 mm. as the average intraocular pressure. Stimulation of the sympathetic nerve caused a double effect: first, contraction of the unstriped muscle fibres of the orbit and a rise of pressure, and as the vessels of the ciliary process contracted so as to diminish the blood pressure in those vessels there was a fall also in the intraocular pressure. There was a quick rise due to contraction of the nictitating membrane and the unstriped muscle fibres and a rise of pressure. As the formation of intraocular fluid passed off there was a fall of pressure, accompanied by constriction of the vessels of the eyeball. He contended that the blood pressure must be higher in the vessels all the way along than outside and than the intraocular pressure, and the quicker the rate of flow through the system of vessels concerned the greater must that difference of pressure be. There was no reason for saying it was impossible for a difference of pressure to exist between the capillaries and the fluid outside; but there was every reason for assuming there must be a difference. One could not know how much fluid came out until one ascertained what was the rate of transudation. If the pressure remained constant, that rate was the rate of absorption. Professor Starling showed a number of slides to illustrate his point. It was impossible to measure the pressure in the capillaries under normal conditions. By increasing the pressure of the intraocular fluid one brought up the pressure in the capillaries towards that in the arteries. At some future time it might conceivably be shown that the cells coming from the ciliary processes might act as regulators, but at present there was no evidence that they acted otherwise than as guiding and strengthening the filtering membrane. In regard to the relationship of the capillary to the venous pressure, he had never been able to understand Dr. Hill's position on that point. Into the mechanism of accommodation he did not propose now to enter, except to say he supposed it to be due to a shifting of fluid between the posterior chamber and the anterior chamber, which could easily take place, as there was no resistance between the fibres and the suspensory ligament.

Mr. PRIESTLEY SMITH (Birmingham) said it was important to know what was the normal pressure in the human eye. It certainly varied in different people and in the same person at different times; but what would be a fair average? A pressure of 60 mm. which had been mentioned would surely mean that the person had glaucoma. Dr. Hill had said that the intraocular pressure was equal to the venous pressure and to the pressure in the capillaries. He (Mr. Smith) thought it was equal to the venous pressure at one point—i.e., where the blood left the eye—but that at every other point the intraocular pressure was lower than the blood pressure. Dr. Hill had not shown that the pressure in the torcular herophili was equal to the pressure in the veins and other parts of the skull; and, as Professor Starling said, there could not be equality of pressure or there would be no movement. But the difference in pressure was probably only very slight. He did not see how Dr. Hill could hold it as proved that the pressure in the capillaries of the ciliary body was the same as the pressure of the intraocular fluid; and every probability seemed to be against that view. It was generally acknowledged that the intraocular pressure was produced by the ciliary processes, and he believed the ciliary body also played a part. There was no question that the vitreous fluid was renewed, but did it come from the posterior surface of the process or from the pars plana? He expressed his objection to the use by some, even chemists, of the term "tension" instead of "pressure." There had been a controversy as to whether the tension of the eye depended on increased volume or on increased pressure of the

blood. Such a discussion was futile, because it depended on both.

The discussion was postponed until the next meeting of the section.

SECTION OF ANÆSTHETICS.

The Administration of Anæsthetics in America.

A MEETING of this section was held on Dec. 6th, Dr. J. BLUMFELD, the President, being in the chair.

Dr. MAY DICKINSON BERRY read a paper entitled "Notes on the Administration of Anæsthetics in America," the greater part of which referred to observations made during a recent visit to the Mayo Clinic at Rochester, Minnesota. She said: There are four anæsthetists at the Rochester Hospital who are all nurses specially trained in anæsthetics. Operations go on every morning in four theatres simultaneously. The method of anæsthesia used is exclusively open ether. The face-piece employed is a modified Esmarch covered with two layers of stockingette, which after the first minute or two of induction is loosely surrounded by folds of gauze bandage. Ether is dropped on, slowly at first, then more rapidly, from the pound or quarter-pound tins in which it is supplied, by means of a pledget of cotton-wool fitted into a cork. The operation is begun in about five to eight minutes after the commencement of the anæsthetic. The patient is rarely so deeply under as to show no reaction when the first cut is made, and throughout the operation, especially if this is abdominal, it is usual to see a lighter anæsthesia maintained than is generally demanded over here. Large abdominal retractors are used which probably render deep anæsthesia unnecessary. The anæsthetists, however, always have their patients well under control; there is never vomiting or actual struggling. The patient's condition is generally excellent. There has never been a death due to the anæsthetic at the hospital; after-sickness is usually slight, and ether bronchitis is stated to be unknown. Ether is given for all operations, including goitre, simple or exophthalmic, cleft palate, tonsils and adenoids, and even for small operative proceedings where nitrous oxide would have seemed sufficient. The amount of ether used is small; for operations lasting from 30 to 50 minutes 4 oz. are the usual quantity. In one goitre operation lasting 43 minutes only 2 oz. of ether were used. Commenting on points of difference in the administration of anæsthetics in America compared with our own methods, Mrs. Berry emphasised the very small use that is made of chloroform; in some hospitals it is almost prohibited. Another noteworthy point was the little use that is made of the eye-reflexes. The eyes are almost everywhere left covered by protective tissue and are never referred to. With regard to the position of anæsthetists in America, it was stated that medical practitioners who practise anæsthetics as a specialty are comparatively few, but are increasing in number, especially in the eastern cities. Many hospitals employ nurses who not infrequently have been trained at Rochester, preferring a specially trained nurse to a comparatively untrained house surgeon.

Mr. H. J. PATERSON showed some photographs of the administration of open ether as done in America.

The PRESIDENT commented on the "light" anæsthesia mentioned by Mrs. Berry, and pointed out that such anæsthesia would not be satisfactory for surgeons in this country. He did not think that much skill was required to produce the light anæsthesia that had been described.

Mr. H. BELLAMY GARDNER asked if there was any increased hæmorrhage with open ether in adenoid and cleft palate operations, as this fact seemed to militate against open ether in this country. He thought that the London surgeons were allowed to have their way much too far with regard to the relaxation of the abdominal muscles. Relaxation of the abdominal muscles should never be attempted, and was unnecessary if proper abdominal retractors were used. In this country there was still need for a consensus of opinion as to the best form of anæsthesia in particular classes of cases.

Dr. A. L. FLEMMING thought that the opinion long held in this country, but now dying out, that deep anæsthesia prevented shock, had been a handicap, and answerable for many of the accidents which had happened. It would be a great gain if there eventuated out of this discussion some opinion as to the safety of light anæsthesia.

Mr. GEORGE E. GASK differed from Mrs. Berry with regard to the excellence of anæsthesia in America. The Mayo Clinic was not typical of all American practice, for that surgical centre stood high above everything else in the States, and from what he had seen in the other places that he had visited in America the anæsthesia was not up to the standard obtained in the hospitals of London. He thought that the surgeon interfered with the anæsthetist far more in America than in London. Open ether was given (and given well) at the Mayo Clinic for everything. He did not know whether the freedom from ether bronchitis was due to the dry climate of America, but with regard to this point it must be remembered that the class of case dealt with at the Mayo Clinic was different from the hospital cases on this side, for frequently patients had to travel hundreds of miles to get there, and so they did not get the horrible pulmonary cases that London hospitals got.

Dr. J. F. W. SILK laid stress on the fact that the type of patient at the Mayo Clinic was not that of the usual hospital patient.

Dr. LLEWELYN POWELL spoke of the benefit of studying the methods of other countries, and pointed out that although we might be able to learn a lot from the Americans about open ether, they could learn a lot from us about other anæsthetics, and said that the American surgeons would probably be very glad to have such a body of skilled anæsthetists at their disposal as the London surgeons had.

Dr. C. CARTER BRAINE discussed the responsibilities of nurse-anæsthetists, seeing that they were not medically qualified.

Mr. PATERSON considered that we had learnt more from the Americans than they had learnt from us, and he did not think that open ether was given as well in this country as it was in America, where they practised a drop method of administration. From a fortnight's inquiry amongst practitioners and patients in America he had become converted to the open method of giving ether, and now thought that it was not right to give chloroform except in rare instances.

Mrs. BERRY replied, amplifying the experiences and impressions dealt with in her paper.

Mr. W. DE COURCY PRIDEAUX, dental surgeon of Weymouth, sent for inspection a Face-piece designed for patients bereft of many teeth.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

President's Inaugural Address.

A MEETING of this society was held on Nov. 14th, Dr. F. W. EURICH, the President, being in the chair.

After thanking the society for having elected him President, Dr. EURICH said that he wished that the only surviving original member of the society, Dr. D. Goyder, could reoccupy the chair and do full justice to the history and traditions of the society during its 50 years existence. He referred next to the late Mr. R. H. Meade, the late Dr. A. Bronner, sen., and the late Dr. J. H. Bell, men whose pioneer work had placed the society on its present firm basis. Much of the work done in the society was bound to have but an ephemeral interest, but the value of the clinical cases cited, and of the facts then newly discovered and recorded, remained undiminished. Two influences had been, and still were, inimical to the progress of medicine—armchair speculation and dogma. The former was disappearing; the latter remained, more perhaps among the laity than in the profession. In primitive times belief in a Godhead was almost universal, and disease was believed to be a punishment for sin, and penance to the presiding deity was necessary before the disease could be stayed. Hence the healing art fell into the hands of the priesthood; and the dogma of the supernatural causation of disease prevented any serious advance in medical knowledge. Hippocrates was the great liberator of the art of medicine from priestly dogma. He believed in the natural causation of disease and upon that his fame rested. For 2000 years no progress of note occurred, though observations made for the 500 years following his death were collected by Galen. Galen had a less profound belief in the natural causation of disease. In the Middle Ages the priests annexed the beliefs of Galen, and medicine again became shackled

by dogma. Not until dissection became allowed could Galen's infallibility be attacked. Morgagni, an Italian, a clinician as well as a morbid anatomist, laid the foundation of pathology. Morgagni's methods embraced a wider field than mere morbid anatomy, and were still applicable, even to the few remaining diseases of which the pathology was yet unknown. Certain mental diseases could be analysed correctly only by the correlation of clinical material by the physician, and yet they still came under the sway of dogma. For insanity and criminal responsibility were still decided upon by laymen. Only the medical mind could realise that the exercise of the will could and must under all circumstances find expression through the medium of the brain alone, and that the manifestations of the personality could move within the limits of what we call the normal, only if that medium, the brain, were normal also. We were what we were by virtue of the sum total of the sensory impressions that had reached the brain. Freud's methods of psycho-analysis had shown that even forgotten events of childhood could exert influences in later life almost impossible to estimate. How were these difficult matters to be decided if not by medical men? And yet the legal profession was still inclined to hold to the dogma of the absolute responsibility of many persons whom physicians knew to be insane. In criminal trials two decisions had to be arrived at, first the guilt of the prisoner, properly decided by the jury, and secondly the degree of his guilt, the proper function of the judge. This latter function should be shared by the alienist and the student of criminal anthropology. Dr. Eurich believed that the whole punitive system was based upon principles fundamentally unsound. The educational possibilities in punishment were its only justification, and any system of punishment which was the expression of the vengeance of society was doomed to failure. He prophesied the time when the only sentences of courts would be indeterminate segregation, during which time the prisoner would work out his own salvation, and his education, guidance, and occupation would be left in the hands of educationists and of medical men of special training and experience. The connexion of science as a whole with man as a whole made both the difficulty and the glory of medical work. The development of social medicine had been one of the great advances witnessed during the lifetime of the society, but even now, while medical help was invoked for the physical care of school children, doctors were not often permitted to have any say in the hygiene of their minds. Since suffering was the punishment of imperfection, suffering there must always be; but it was a medical man's privilege to minister to it, and by doing so to increase not a little the sum of that happiness to which mankind was called.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Malingering.

A MEETING of this society was held on Dec. 14th, Dr. BYROM BRAMWELL, the President, being in the chair.

A discussion on Malingering was introduced by the PRESIDENT. He said that a malingerer might be defined as one who feigned sickness or who knowingly and wilfully exaggerated his condition. He said that the "unconscious malingerer" could not exist, for there was no such condition. As regarded those who were malingerers, the largest number came from sailors, soldiers, prisoners, schoolboys, conscripts, hospital patients, hysterical young women, club patients, and criminals. Since the introduction of the Workmen's Compensation Act cases of malingering had become much more common. In his work on "Diseases of the Spinal Cord" (1895 edition), he had said regarding concussion of the cord that injuries to the back in pitmen which had led to concussion of the cord were rarely followed by that train of symptoms which was so often seen after railway accidents. Now his experience in the medical wards had showed him that the most frequent form of malingerer occurred in colliers who had been injured in this way and they now suffered from traumatic neurasthenia. He thought that when the National Insurance Act came into force ordinary cases of illness would form a large proportion of malingerers. As regarded variety and degree of malingering we had: 1. Perfectly healthy persons who feigned disease or who affirmed that they suffered from the effects of disease. Such cases were rare however. 2. Cases in which, after an accident, a disease which had existed prior to the accident was said to have been due to the accident. This was more common than the former, and in many cases these were difficult to diagnose. He had met with cases as club-foot, old-standing facial paralysis, old-standing ear disease, old scar in cornea, epilepsy, &c. The patient might know that he had the condition which he attributed to the accident or he might not know this until the time of the accident. These cases afforded great scope for difference of opinion. 3. The patient after an accident, injury, or illness exaggerated his condition and did not recover as one would have expected. These were the common cases which gave rise to so much difficulty. If it paid a patient to be off work or if he wanted a holiday there was little inducement to get well. Such were cases of valetudinarianism. The patient was partly deceived. It was most important to get the litigation settled as soon as possible, because in many perfectly genuine cases recovery did not take place until the case was settled. It was of the greatest importance to distinguish partial malingering from valetudinarianism, and yet it was very difficult. It was impossible to say when a patient was able to return to work. If there was no question of compensation the man might go back to work too soon. The diagnosis and detection of malingering must be based on (1) medical examination and opinion; and (2) on collateral non-medical evidence. The success of a malingerer depended on his competence to simulate the real disease, and fortunately, as a rule, malingerers were not skilled in this art. A careful medical examination must be made in order to exclude organic disease, and this was often a very difficult question, especially in nervous cases, and even in non-compensation cases. Many real diseases existed, as aneurysm or angina pectoris, where it was impossible to detect them by examination. Dr. Bramwell referred to the value of electrical tests, use of chloroform, X ray, ophthalmoscopic examination, &c. As regarded collateral evidence one had to lay traps for the malingerer, but often great difficulty was met with in certifying certainly that a patient was a malingerer, and if so, one also incurred a great and grave responsibility. As regarded the procedure advisable, in order to detect and prevent malingering under the National Insurance Act—1. Exhaustive examination by the ordinary medical attendant (panel doctor). In giving a certificate great care must be exercised in making the statement, and one must avoid the use of the term malingerer. 2. The panel doctor must be protected, and this could be done in doubtful cases by an examination and report by a specialist who was not on the panel and whose opinion should be unbiased and independent of the result. 3. If necessary, prolonged observation in hospital. In Germany the patient may be obliged to go into hospital. 4. There should be a time limit for money compensation in cases of neurasthenia and other conditions in which there was no evidence of organic disease.

Dr. GEORGE MACKAY said that true malingering was not so common in eye diseases, as the organ was so delicate that the malingerer did not dare to interfere with it much. Excessive blinking in children, sailors, or soldiers was generally overacted. In compensation cases the assumption often was of partial or total blindness; it might be that one eye had been lost and that subsequently the vision of the remaining eye had become poor. A careful examination of the eye could be easily made. The reaction of the pupil might reveal the fact that the case was one of true malingering. The employment of prisms, coloured spectacles to read complementary coloured types, &c., might often reveal the malingerer. In neurotic individuals the vision might even be suppressed.

Sir THOMAS S. CLOUSTON said that from the psychological point of view malingering was most interesting. It was almost a primary instinct to malinger; many insects feigned death to escape observation; wild ducks played lame to protect their eggs or young. Amongst nervous patients especially did we meet with malingering. As a lunacy expert, he had found it often not easy to determine whether prisoners were malingering or not. Melancholic patients exaggerated their symptoms in order to appear more insane. Nervous patients might honestly simulate disease or exaggerate their symptoms, and, indeed, might really produce real nervous disease, and thus we might find them suffering from true organic disease.

Sir GEORGE T. BEATSON (Glasgow) thought that our legal brethren had much to do with malingering. If more rigid rules were drawn up as to whether such and such cases should come before the courts, there would be less litigation than was the case at present.

Dr. JOHN M. BOWIE thought that lawyers often prevented patients going back to work until their case had been settled, and he thought that the condition of malingering ought rather to be prevented. Malingering would cost the Government over £1,000,000 in sick benefit, and unless malingering and valetudinarianism could be prevented, they would form a curse to the country. He asked why malingering could not be prevented by making the beneficiary pay part of his medical treatment. In Denmark when an insured person was about to call in a doctor he had to go for a card and pay a small sum down.

Mr. CHARLES W. CATHCART, as a surgeon, had seen many cases of injury, and he found it best to allow the patient to tell his own story. One obtained in this way a mental picture of the individual. In estimating the condition one had to look to the state of muscular development of a limb. In real disease there was often atrophy of muscles, but not so if it were mere shamming. One might note that the grasping power was often very feeble in one hand, yet the muscular development was the same in both arms. A good plan was to watch the man taking off his clothes and to observe the range of his movements, e.g., raising his arms above his head in alleged cases of stiff shoulder.

Dr. EDWIN BRAMWELL said that no definite distinction had been made between malingering and functional nervous disease, and many of the cases detailed by the speakers were really cases of hysteria. In diagnosing malingering one had first to exclude organic disease, but even if the latter were present malingering might coexist: 1. An individual with organic or functional disease might attribute these to a subsequent accident. 2. An individual with neither organic nor functional disease might attempt to simulate disease; such cases were easy to diagnose. 3. Traumatic neurasthenia was a subconscious simulation very difficult to distinguish. Hysterical symptoms were frequently mistaken for malingering, and the hysterical patient had quite a right to compensation.

Dr. J. V. PATERSON had had a large experience as an ophthalmologist under the Workmen's Compensation Act. Within the last two years he had dealt with 71 such cases. The Act of 1897 was a good Act in an industrial community. Before making a report one should make a very careful examination, and then draw up the report without respect to lawyer or counsel. An assessor ought always to be present, and ought to examine the workman. In most cases an accident has been sustained. Of the 71 cases, 3 were gross examples of malingering. The common type, however, is the exaggerator; there were 21 cases of gross exaggeration. When they complain of headache, giddiness, falling, &c., it is very often difficult to tell what is the true condition. One of the most glaring defects of the Act is the constant unnecessary litigation which it has given rise to. This was bad both for the men and for the community. Identical cases had been decided over and over again. Why should this be? On the Continent they had scales for compensation in ordinary cases. One met with cases of exaggeration where there was great anxiety as to their future condition; or the symptoms might be exaggerated so that the individual was content not to work; and lastly, there was the fearfully nervous type where the individual would faint or have to lie down during the examination.

Dr. W. G. SYM thought that the difficulty which the man had in obtaining work after having received an injury made him desirous of getting as much out of the injury as possible. He thought that one benefit which the National Insurance Act would bring would be the keeping of accurate records of cases. He was of opinion that the real malingerer should be punished.

Dr. D. CHALMERS WATSON said that as regarded treatment the idea of a time limit was not good; thus cases of neurasthenia might be made much worse by holding over them such a threat. Workmen might suffer from heart strain and, often due to imperfect treatment, real organic heart disease might develop subsequently.

Dr. C. MOWBRAY PEARSON said that as referee he had to see the medical reports as to workmen, and often he found the greatest difference in these as to facts observed, and also regarding the conclusions arrived at. These might be due either to deliberate statement or to insufficient care in the examination. It was unfortunate that this was so, because lawyers might reasonably ask, Why was this so?

Dr. D. ELLIOT DICKSON, of Lochgelly, Fife, said that as far as the discussion had gone he had not obtained much light as to how the general practitioner should proceed in the detection of malingering. He had observed that the *morale* of the Fife miner had been greatly hurt through the operation of the Workmen's Compensation Act. Before the Act came into force the average duration of incapacity to work after fractures of the lower leg was three months, whereas now under the Act this incapacity lasts over six months. Amongst Fife miners the subject of traumatic neurasthenia was a topic of common conversation.

Mr. D. M. CAMERON, manager of the Alliance Insurance Company, said that no insurance company had a large experience in this work. As regarded the suggestion that a man's fellow workers would act as detectors of malingering, he said that the Friendly Societies distributed the sick pay through the fellow workers, and they had acted in a certain way as detectives.

The PRESIDENT, in his reply, said that even if a penalty were inflicted it would have little effect on the gross examples of malingering. In reality they had most frequently to deal with the partial malingerer and valetudinarian. Experts were necessary in every case—neurologists, ophthalmic surgeons, and others. As regarded recovery, want of effort was the chief hindrance. The neurasthenic did not make an effort to exercise paralysed or contractured limbs, &c., and so they remained helpless for many years until perhaps they were treated in a hospital. In some way or another it ought to be made not worth the patient's while to remain ill. If this were done, malingering would come to an end, and a stimulus would be afforded to the valetudinarian to get well.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Radical Operation for Malignant Disease of the Testicle.—Dioradin in Surgical Tuberculosis.

A MEETING of this section was held on Nov. 29th, Mr. A. J. M. BLAYNEY being in the chair.

Mr. S. SETON PRINGLE read a paper on Radical Operation for Malignant Disease of the Testis. After dealing with the pathology of new growths in the testicle, he described the lymphatic drainage of the organ and the general anatomy of the region of the operation. He laid stress on the fact that good results could be hoped for only if the operation were undertaken early before the involvement of the secondary glands. The case which he reported occurred in the left testis of a man aged 28. The operation was done by the extra-peritoneal route, and in this way the testis, cord, inguinal glands, spermatic vessels right up to the renal vessels, the psoas fascia, lymphatic channels, and lumbar glands were all removed in one piece. The patient made good progress, and six months after the operation showed no sign of recurrence. The pathological report stated that the growth was a "mixed tumour" of a carcinomatous type, and that although the glands were enlarged they showed no sign of malignant infiltration.—Mr. BLAYNEY congratulated Mr. Pringle on the paper. He said that in the present state of knowledge the only effective treatment in such cases was radical operation. He asked why this extensive operation should not be carried out in cases of sarcoma, seeing that in sarcoma of the testes the lymphatic glands were usually involved.—Mr. K. E. L. G. GUNN said that he had an opportunity of seeing the operation carried out by Mr. Pringle, and it appealed to him as an excellent method of trying to relieve the severe form of disease. He alluded to the danger of recurrence, and said that in three cases in which he had removed the testes for sarcoma he was afraid recurrence had taken place.—Mr. H. STOKES said that with regard to sarcoma of the testicle he had a case in a child some years ago which he at first looked on as a hydrocele, but afterwards removed the testicle. He had seen the child recently and there was no

recurrence.—Mr. PRINGLE, in reply, said that in speaking of dividing up tumours into two classes—sarcomatous and carcinomatous—for purposes of operation he did not include amongst the sarcomatous mixed tumours in which there were a few sarcomatous cells. So far as diagnosis was concerned, he advocated the taking out of a small piece for microscopic examination.

Mr. R. ATKINSON STONEY read a paper on Dioradin in Surgical Tuberculosis, in which he gave the results of 28 cases of surgical tuberculosis treated by injections of dioradin. He had reported on 14 of these a year ago, since which 9 had received a second course of injections. He divided the cases into two classes, according as to whether they were complicated by sepsis or not. There were 15 non-septic cases, and of these 7 resulted in apparent cure, 4 were greatly improved, two were somewhat improved, 1 was not improved, and 1 which improved greatly for a time died later of tuberculous meningitis. In the septic cases there were 4 apparent cures, 2 were greatly improved, 1 was somewhat improved, 5 were not improved, and 1 which improved died later of acute nephritis. Altogether there were 6 cases without apparent improvement. Having given over 3000 injections, he could say that he had never seen them do any harm or give rise to any discomfort. He drew the following conclusions from these cases: 1. The injections were not a certain cure for all cases of tuberculosis; in some cases they would produce a cure more rapidly and more certainly than any other treatment. 2. Early cases of joint disease treated by injections, combined with ordinary methods of rest, good food, &c., would recover more rapidly and more surely than when treated without the injections. 3. In advanced cases with abscess formation, if injections were started before or at the time the abscess was opened, it would usually heal rapidly and the tuberculous process apparently come to an end. 4. In cases complicated by septic infection the injections would generally reduce the temperature to normal, increase the appetite and weight, and lessen the amount of discharge, and in some cases even bring about a cure.—Mr. BLAYNEY congratulated Mr. Stoney on his impartial and judicial survey of the symptoms presented by the cases. He considered the conclusions drawn from the results of the treatment to be justified. Dioradin appeared to render considerable assistance in dealing with the disease. There was one objection, however, to its use—i.e., the expense. He thought very few hospitals could afford it.—Dr. T. P. C. KIRKPATRICK said that he had had but small experience of the method, and that the patients with which he had tried it were not suffering from surgical tuberculosis, but phthisis. He did not see any improvement which could be attributed to the treatment. Four of the five cases which he had under observation last year came to a fatal termination; the other was a man of advanced age who had an involved tuberculous lesion at the base of the right lung, and he improved considerably, and left the hospital expressing himself as quite well. On the whole, he was not very favourably impressed by dioradin. A number of other patients who had been treated with the drug and subsequently with injections of iodoform suspended in ether appeared to him to have reacted quite as favourably with the latter as when treated with the radio-active substance. He suggested that the radium was added in order to increase the patient's imagination. It appeared to him that the active substance in the drug was iodoform, and injection of iodoform in certain cases had been followed by good results.—Mr. C. A. K. BALL inquired if there was only one out-patient treated in the series. This he considered a very important matter, as when surgical cases were taken into hospital a very large proportion of them put on weight.—Mr. GUNN said that he had six cases of tuberculous disease under treatment with injections—two of them with dioradin and four with a preparation supplied in Dublin which was much the same. Of the six case sone had done extremely well, and it was treated with the inexpensive drug, one was too recently treated to draw any conclusion, and the remaining four had shown no improvement. All these cases had been treated with tuberculin before this without result.—Mr. STONEY, in reply, said he had only treated five cases of phthisis with dioradin, and the results were not very satisfactory or definite. With regard to the advantage of radium in the preparation, test tube experiments were made with and without radium on tubercle bacilli, and, as far as he remembered, the destruction with the radio-active solution was three times as fast as that with the non-radium solution. The active principle in the solution was not iodoform, but iodine. There was only one out-patient treated. Many of the patients had previously been in hospital for periods from three to fourteen months without improvement.

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held at Leicester-square on Oct. 15th, Dr. Morgan Dockrell, the President, being in the chair.—The President gave a short introductory address, in which he spoke of the features of the society, dwelling upon its educational advantages, especially derived from the cases which were brought for consultation, many of which were of great interest. He then made some remarks upon the subject of alopecia in its numerous varieties.—Dr. J. L. Bunch showed a case of a woman with several lesions of a suspiciously specific nature, but which he did not believe were really syphilis.—The President, Dr. W. Griffith, and Dr. R. P. White discussed the case.—Dr. Knowsley Sibley showed two little girls with Abundant Hairy Growth over the Sacro-lumbar Region, the one merely a luxurious growth of fine down, but the other had a large hairy tuft several inches in length resembling a tail. The condition was a congenital one, and there were not any other abnormalities about the body. The hair had recently become matted in places and presented the condition which has occasionally been described on the head of women, under the name of plica neuropathica.—Dr. Griffith showed a case of Pigmentation of the Skin in a man who had been taking arsenic.—Mr. H. C. Samuel, Dr. White, and the President spoke on the case.—The President showed a case of Scleroderma which had been made worse by the injudicious treatment by X rays.—Dr. Sibley gave a practical demonstration of his treatment by the application of solid carbon dioxide dissolved in ether, which made a convenient freezing mixture for cauterising lesions on the skin or mucous membranes.

Reviews and Notices of Books.

Dictionary of National Biography. Edited by Sir SIDNEY LEE. Second Supplement. Vol. II., Faed-Muybridge. London: Smith, Elder, and Co. 1912. Pp. 676. Price 15*s*.

THE medical biographies in the present volume are over forty in number. Sir Joseph Fayrer, who was born at Plymouth in 1824, studied medicine at Charing Cross Hospital, and was admitted a Member of the Royal College of Surgeons of England in 1847, becoming a Fellow in 1878; he also obtained the degrees of M.D. Rome in 1849 and of M.D. Edin. in 1859. He was connected with the Indian Medical Service for 45 years, having joined it as an assistant surgeon in Bengal in 1850, and retiring from the position of president of the medical board of the India Office with the rank of surgeon-general in 1895. He was selected to accompany the late King Edward VII., when Prince of Wales, on his tour of about six months through India in 1875–76. In the course of this journey he was made K.C.S.I. at Allahabad, and on his return to England he was gazetted honorary physician to the Prince. He was a prolific writer on Indian climatology, the pathology of Indian diseases, sanitation, and, above all, on venomous snakes. In 1896 he was created a baronet, and he died at Plymouth in May, 1907. Sir Michael Foster was born at Huntingdon and received his medical education at University College, London, graduating as M.B. and M.D. Lond. in 1858 and 1859 respectively. In 1867 he became teacher of practical physiology in University College, London, and two years later was appointed professor in the same subject. He also held the position of Fullerian professor of physiology in the Royal Institution. In 1870 he left London for Cambridge to become prælector of physiology in Trinity College. In 1872 he was elected F.R.S., nd in 1881 he became biological secretary

of the Royal Society, an office which he held for 22 years. In 1899 he was President of the British Association and in the same year was created K.C.B. From 1900 to 1906 he was M.P. for the University of London. Foster was eminent alike as a teacher, as a writer of scientific works, and as an organiser. As a teacher he had a large share in the development of the present method of making practical work in the laboratory an essential part of the courses in biological science. It was chiefly through his powers of organisation that the Physiological Society was established in 1875. In 1878 he founded the *Journal of Physiology* and remained its sole editor until 1894. Of his published works his "Text-book of Physiology" was the most noteworthy. He died in London in January, 1907. Sir William Tennant Gairdner, whose "Life," by Dr. George Alexander Gibson, was reviewed in THE LANCET of Nov. 23rd, was born in Edinburgh in 1824, received his professional training in the university there, and graduated as M.D. Edin. in 1845. In 1853 he became physician to the Edinburgh Royal Infirmary and in 1862 was appointed professor of medicine in the University of Glasgow. From 1863 to 1872 he was also medical officer of health of Glasgow. He was not only a fluent speaker and prolific writer but also did much original work in pathology and physical diagnosis. Among the subjects on which he threw valuable light were the intimate connexion between arterial supply and myocardial changes; the reciprocal influence of the heart and lungs; cardiac hypertrophy and dilatation; the system of representing the sounds and murmurs of the heart by means of diagrams; and the recognition of tricuspid obstruction. He retired from the chair of medicine in Glasgow in 1890, returning to his native city, where he died in June, 1907. He was appointed physician-in-ordinary to Queen Victoria in Scotland in 1881, and honorary physician to King Edward VII. in 1901; representative of the University of Glasgow on the General Medical Council in 1894; President of the Royal College of Physicians of Edinburgh in 1893–94; and President of the British Medical Association when it met in Glasgow in 1888. He was also elected F.R.S. in 1892 and created K.C.B. in 1898. Sir Alfred Baring Garrod was born at Ipswich in 1819 and studied medicine at University College, London, graduating as M.B. and M.D. Lond. in 1842 and 1843 respectively. In 1847 he was appointed assistant physician to University College Hospital, where he became physician and professor of therapeutics and clinical medicine in 1851. In 1856 he was admitted a Fellow of the Royal College of Physicians of London, where he was Gulstonian lecturer in 1857, Lumleian lecturer in 1883, and vice-president in 1888. Having resigned his posts at University College Hospital, he was in 1863 elected physician to King's College Hospital and professor of materia medica and therapeutics in King's College. Elected F.R.S. in 1858 and knighted in 1887, in 1890 he became physician extraordinary to Queen Victoria. Garrod devoted himself to the chemical investigation of pathological problems, and became well known by his discovery that in gout the blood contained an increased quantity of uric acid. He also separated rheumatoid arthritis from gout, with which it had previously been confused. He died in London in December, 1907. Sir Francis Seymour Haden was born in London in 1818, and after having studied in the medical schools of Paris and Grenoble he was admitted in 1842 a Member, and in 1857 a Fellow, of the Royal College of Surgeons of England. He practised as a surgeon in London from 1847 to 1887, holding at various times the positions of consulting surgeon to the Chapel Royal and a vice-president of the Obstetrical Society. He was also one of the principal movers in the foundation of the Royal Hospital for Incurables in 1850, and as early as 1862 he was a strong supporter of the operation of ovariotomy. He was much interested in the question of the disposal of the dead, being an opponent of cremation and an advocate of "earth-to-earth" burial, which he effected by his invention of a papier-maché coffin. His pastime was etching, the subjects being chiefly landscapes, although a few plates were devoted to portraits and figure studies. He exhibited his work in the Royal Academy from 1860 to 1885, and gradually became recognised as one of the chief English exponents of this branch of art, and it is as an artist that he will be remembered. In 1894 he was knighted, and in 1910 he died near Alresford in Hampshire. Christopher Heath was born in London in 1835 and studied at the medical school of King's College, London, becoming a Member of the Royal College of Surgeons of England in 1856 and a Fellow in 1860. After filling positions in various hospitals and medical schools, he was in 1866 appointed assistant surgeon and teacher of operative surgery at University College Hospital, becoming full surgeon in 1871 and Holme professor of clinical surgery in 1875. At the Royal College of Surgeons of England he was successively Hunterian professor of surgery and pathology, Bradshaw lecturer, and Hunterian orator; in 1895 he became President of the College, and was re-elected for a second term. He published a number of surgical works, among which his "Manual of Minor Surgery and Bandaging" first appeared in 1861, and reached its twelfth edition in 1901. He was for many years a prominent member of the staff of THE LANCET. He died in London in August, 1905. Luther Holden was born in Birmingham in 1815, and after studying at St. Bartholomew's Hospital was admitted a Member of the Royal College of Surgeons of England in 1838 and a Fellow in 1844. From 1859 to 1871 he lectured upon descriptive and surgical anatomy at St. Bartholomew's Hospital, becoming also assistant surgeon in 1860, full surgeon in 1865, and consulting surgeon in 1881. He died at Putney in February, 1905. The biography describes him as "one of the last members of the anatomical school of surgery of the mid-nineteenth century." His "Manual of the Dissection of the Human Body" and his "Human Osteology" have both of them passed through many editions. Timothy Holmes was born in London in 1825, became a student at St. George's Hospital, and was admitted F.R.C.S. Eng. in 1853. After holding various posts at St. George's Hospital he was in 1861 elected assistant surgeon and lecturer on anatomy, and was full surgeon from 1867 to 1887. For 20 years he was chief surgeon to the metropolitan police. At the Royal College of Surgeons of England he was Hunterian professor of surgery and pathology, a member of the court of examiners, and a member of the Council. He died in London in September, 1907. A practitioner of the school anterior to the advent of bacteriological methods, he made anatomy the foundation of his surgery. In addition to writing "A Treatise on the Principles and Practice of Surgery" he edited several editions of two other works—namely, (1) "A System of Surgery, Theoretical and Practical," and (2) Henry Gray's "Anatomy." He was a man of great force of character, a fine scholar, and a really learned man whose inflexible devotion to his ideals stood in the way of official advancement. Sir William MacCormac was born in Belfast in 1836, studied not only medicine but engineering also, and was admitted M.D. in the old Queen's University in Ireland in 1857. In Belfast he was successively surgeon, lecturer on clinical surgery, and consulting surgeon to the Royal Hospital between the years 1864 and 1870, when he removed to London. In the same year he volunteered for surgical duty with the Anglo-American Association in the Franco-German war, and on his return to London he was in 1871 appointed assistant surgeon at St. Thomas's Hospital. He

was made full surgeon in 1873, and was for 20 years lecturer on surgery in its medical school. In 1876 he was chief surgeon to the National Aid Society for the Sick and Wounded during the Turco-Servian campaign, and he had further war service during the South African campaign of 1899–1900. In 1897 he was created a baronet, and was appointed surgeon-in-ordinary to the Prince of Wales, afterwards King Edward VII.; in 1898 he received the further distinction of K.C.V.O. At the Royal College of Surgeons of England he delivered the Bradshaw lecture in 1893, and he was Hunterian orator in 1899. He was elected President in 1896, and enjoyed the unique honour of re-election on four subsequent occasions, during the last of which he presided over the centenary meeting held in 1900. In 1901 he was made K.C.B. for his work in South Africa, and was also appointed an honorary serjeant-surgeon to King Edward. He died at Bath in December, 1901.

In addition to the biographies of many other possessors of medical qualifications, the Dictionary contains useful notices of many persons of other professions who have directly or indirectly contributed to the progress of medical knowledge. Examples of this kind will be found under the names of Sir Francis Galton, founder of the school of "eugenics"; Manuel Garcia, teacher of singing and inventor of the laryngoscope; Sir Joseph Dalton Hooker and Maxwell Tylden Masters, medical graduates eminent as botanists; and Sir Alfred Lewis Jones, a Liverpool shipowner, one of the founders and one of the most liberal supporters of the Liverpool School of Tropical Medicine.

It will be observed that the name of Lister is not mentioned as occurring in this volume. This is explained by the fact that in the three volumes of this series the names are given only of those noteworthy persons who died between Jan. 22nd, 1901, and Dec. 31st, 1911.

Clinical Disorders of the Heart Beat: A Handbook for Practitioners and Students. By THOMAS LEWIS, M.D. Lond., D.Sc. Wales, M.R.C.P. Lond., Lecturer in Cardiac Pathology, University College Hospital Medical School; Physician to Out-patients, City of London Hospital for Diseases of the Chest. London: Shaw and Sons. 1912. Pp. 104.

THE object of this small book, as clearly stated in the preface by Dr. Lewis, is to afford a concise and practical statement of the new facts and conclusions likely to be of service at the bedside which have been brought to light by the application of precise graphic methods to the study of the mechanism of the heart beat in health and disease. Dr. Lewis gives it as his opinion that the acquisition of the special manipulative skill and the necessary experience which the method requires entails too great an expenditure of time and energy adequately to repay the practitioner of general medicine, and he believes that most of the disturbances of the heart's mechanism met with in ordinary practice can be identified by simpler means. With this view we find ourselves in complete accord, and we can cordially commend Dr. Lewis's clear exposition of the information afforded by graphic methods in terms of the clinical phenomena appreciable by ordinary methods of physical examination. His book is not only very interesting, but it contains many useful hints, and it presents in simple form some of the complex disturbances of cardiac action with whose manifestations everyone is familiar, together with an explanation of the mechanism underlying their production, which in many cases has been only recently brought to light. It should serve to encourage the careful and exact clinical observation in practice of all cases of disturbance of cardiac rhythm, and in so doing to lessen the confusion existing in many quarters as to their significance, their gravity, and their treatment.

The first chapter is introductory and indicates briefly the nature of the ordinary forms of irregularity which are classified into the following groups: Sinus arrhythmia, heart-block, premature contractions, paroxysmal tachycardia, auricular fibrillation, and alternation of the pulse. In the succeeding chapters each of these is considered in detail and is illustrated by simple diagrams and by representative tracings. The relative frequency of disorders of the cardiac mechanism from adolescence to old age in general hospital practice is given as auricular fibrillation, 41 per cent.; premature contractions, 34 per cent.; paroxysmal tachycardia, 10 per cent.; sinus arrhythmia, heart block, and alternation, 5 per cent. each. In cases in which there is obvious evidence of cardiac failure, at least 60 per cent. of irregular hearts are irregular because of fibrillation of the auricles. It is a matter of some surprise to us that the percentage of cases of paroxysmal tachycardia is as high as that given, and in the absence of the figures upon which these conditions are based we cannot avoid the suspicion that Dr. Lewis has been particularly favoured in the number of cases of this condition he has seen, owing to his special interest in obscure arrhythmias. Among other generalisations which he enunciates we may mention that an irregularity of heart or pulse before the tenth year is almost always a sinus arrhythmia, and, again, that when the ventricle beats regularly and its rate is continually below 35 beats per minute complete heart block is probably present, while, on the other hand, if the ventricle beats irregularly and the rate exceeds 120 per minute fibrillation of the auricle is most likely the cause. The significance of solitary pulse intermittences, of coupled beats, triple beats, and halved pulse-rate is also discussed.

In the descriptions given in subsequent chapters of the individual forms of arrhythmia their mechanism is clearly explained and illustrated by diagrams and tracings. Their symptomatology, prognosis, and treatment are also succinctly passed in review, so that within comparatively small compass there is presented in readable and intelligible form a valuable account of the results of modern research upon the subject of irregularities of the heart's action.

Primary Malignant Growths of the Lungs and Bronchi. By J. ADLER, A.M., M.D., Professor Emeritus at the New York Polyclinic. London and New York: Longmans, Green, and Co. 1912. Pp. 325. Price 16*s*.

IN the ordinary text-books on medicine but little space is devoted to a consideration of primary malignant growths of the lungs. Carcinoma and sarcoma of the lungs are rare conditions, but according to Dr. Adler they occur more frequently than is generally thought to be the case. Especially in recent years more cases have been recorded, but he believes that the increase in the percentage that has been estimated is to be mainly attributed to more attention being paid to those types of tumour, and the greater care and more extensive microscopic investigation with which necropsies are carried out at the present time. In the volume before us much instructive information is given in regard to malignant growths of the lung. Dr. Adler has evidently devoted much time and care to the compilation of the book, for out of 325 pages of which it is composed no less than 211 are taken up by abstracts of cases collected from medical literature.

In discussing the question of heredity Dr. Adler quotes Josefsen and Pfannenstiel, who found only one case of accredited heredity among their 70 cases. Judging also from a large number of other cases recorded, it is evident that the incidence of malignant growths of the lungs is not seriously affected by hereditary strain. The concomitance of tuberculosis and cancer is also mentioned. At one time it

was stated that when tuberculosis was found cancer could not occur; now, however, it is recognised that this view is incorrect, and experience has shown not only that carcinoma, especially of the cancroid variety, is sometimes found in a tuberculous cavity, but that ordinary pulmonary tuberculosis, with breaking down of tissue and formation of cavities, as well as miliary tuberculosis and localised tuberculosis in other organs, may be associated with pulmonary neoplasms. We may add that this fact is supported by the post-mortem records of the Cancer Charity of the Middlesex Hospital.

The clinical account of malignant disease of the lung is clearly given, and attention is drawn to certain physical signs which yield valuable diagnostic information. Amongst these is that known as "cornage," a sound very similar to that obtained from the trachea when it is partially compressed. It is pathognomonic of bronchial obstruction, and Dr. Adler believes that it may be considered, especially when heard about the root of the lungs, and better still when accompanied by some dulness, as an almost certain sign of tumour. The pathology of primary malignant growths of the lung is well described, and some photographs of the microscopical appearances are beautifully executed.

We have perused this volume with much interest, for it is an excellent *résumé* of the present-day knowledge of these neoplasms.

The Cause of Cancer, being Part III. of Protozoa and Disease. By J. JACKSON CLARKE, M.B. Lond., F.R.C.S. Eng., Senior Surgeon to the Hampstead and North-West London Hospital, and Surgeon to the Royal National Orthopædic Hospital. With 8 plates. London: Baillière, Tindall, and Cox. 1912. Pp. 98. Price 7*s.* 6*d.* net.

BOTH this, the third, volume and also the second, which was issued a few years ago, possess much interest for the student of the etiology of malignant disease. Mr. Jackson Clarke has made very extensive researches on cancer, and believes that he has found the protozoon causing cancer. Although his conclusions have not been generally accepted we can say much for the views which he has adopted. And after all though many observers have somewhat hastily concluded that it is impossible that cancer can be due to a micro-organism, the support of this position is by no means conclusive. The work of Mr. Jackson Clarke requires to be repeated, so that his conclusions may be confirmed or disproved, if that be possible. Whatever may be the outcome of the matter his investigations are of great interest, and he has recorded them with impartiality. All work honestly directed to the solution of the tremendous and baffling problem of the origin of cancer must be welcomed, whether we are prejudiced or not against the conclusions come to.

Malingering and its Detection, under the Workmen's Compensation and other Acts. By ARCHIBALD MCKENDRICK, F.R.C.S. Edin., &c. Edinburgh: E. and S. Livingstone. 1912. Pp. 94. Price 1*s.* 6*d.* net.

THIS volume is intended for the guidance of non-medical persons, more particularly members of the legal profession and officials of insurance companies, who may be called on to deal with claims for compensation under the Employers' Liability and similar Acts. Its aim is to give such readers, in plain language and without the use of technical expressions, a brief account of the nature and value of the evidence on which the medical examiner relies in forming a judgment in cases of this kind. The author has succeeded in attaining his aim. It might perhaps be desirable, in the reference (p. 64) to the absence of faradic reaction in permanently paralysed muscle, to point out that this applies only to cases of nerve damage. Though, of course, implied in the context, this limitation might easily be overlooked by the untechnical reader, to whom the term "paralysis" more generally means the conditions due to central lesion. With this possible reservation the author's descriptions are clear and simple to a degree that should make them readily intelligible. A chapter of excellent practical advice on the method to be followed in drawing up reports in compensation cases will be found useful by medical men who may not be aware of the pitfalls that await the unwary in this branch of medico-legal practice.

Recent Methods in the Diagnosis and Treatment of Syphilis: The Wassermann Serum Reaction and Ehrlich's Salvarsan. By CARL H. BROWNING, M.D. Glasg., Lecturer on Clinical Pathology, University of Glasgow; and IVY MACKENZIE, M.A., B.Sc., M.B., Ch.B. Glasg., Director, Western Asylums' Research Institute, Glasgow. In collaboration with JOHN CRUICKSHANK, M.B., Ch.B. Glasg., CHARLES G. A. CHISLETT, M.B., Ch.B. Glasg., WALTER GILMOUR, M.B., Ch.B. Glasg., and HUGH MORTON, M.B., Ch.B. Glasg. With an Introduction by ROBERT MUIR, M.A., M.D. Edin., F.R.S. London: Constable and Co., Limited. Pp. 303. Price 8*s.* 6*d.* net.

THE large output of works on the modern methods of diagnosis and treatment of syphilis is a striking proof of the interest that is felt in this department of medicine. The real starting point of the recent progress in our knowledge of syphilis was without doubt the discovery in 1905 of the spirochæta by Schaudinn; this was soon followed by the discovery of the serum reaction by Wassermann, Neisser, and Bruck; and in 1909 the introduction of salvarsan formed a further step in our knowledge of this important disease. The book before us is one of the many which have been written to explain these modern advances, and we have no hesitation in saying that it is one of the best. It contains much original work which has not hitherto seen the light. About half the work has been devoted to the Wassermann reaction and the remainder deals with the use of salvarsan. The book may be thoroughly recommended to all who wish to know about these modern advances.

Biochemie für Zahnärzte und Studierende. Von Dr. KURT HOFFENDAHL, Lehrer der Zahnheilkunde an der Kgl. Friedrich Wilhelms-Universität zu Berlin. Berlin und Wien: Urban und Schwarzenberg. 1912. Pp. 212. Price, paper, 9 marks; bound, 11 marks.

ON the face of it the publication of a work on biochemistry for dental students and practitioners seems a new departure. In this country, at least, the dental student is called on to pass a not very elaborate examination in inorganic chemistry, and this, with what knowledge he acquires in his course in physiology, must needs suffice. From the general scope of the work the author might also have included medical students amongst those for whom the work is written, as the text does not materially differ from what we find in similar works intended for the medical student.

One quarter of the book is devoted to the chemical and physical constitution of cells in general, much on the usual lines in which this subject is treated in text-books on biochemistry. In this section proximate principles—water, inorganic salts, lipoids, fatty acids, pigments, proteins, ferments, and carbohydrates—are successively taken up, and then the author deals with the transformation of energy and metabolism in general, and such subjects as acidity and alkalinity, osmotic pressure, chemical energy, the micro-chemistry of the cell, and the action of X rays. To the exposition of the blood, its red and white cells, hæmolysis, coagulation, blood plasma and serum, lymph and transudations, including pus, about 30 pages are given. These and the previous subjects occupy more than half of the whole book. To bone a few pages

are devoted, and to teeth about six. The leading facts about the chemistry of cartilage, connective tissues, muscular and nervous tissues are set forth. Glands, mucous, salivary, and cutaneous, and their products, normal and abnormal, are next dealt with. About eight pages are given to digestion in the intestinal tract, and then follows much on the usual lines the absorption of food, absorption from surfaces other than the intestine, fever, and, to wind up with, about 20 pages are given to such subjects as anti-bodies, immunity, agglutination, hæmolysis, precipitins, opsonins, phagocytosis, aggressins, anti-ferments, and anaphylaxy. There are no figures in the text, and the references to recent literature are given at the foot of the respective pages.

The work is a useful, and not too elaborate, epitome of the subject with which it deals.

Spondylotherapy: Physiotherapy of the Spine, based on a Study of Clinical Physiology. By ALBERT ABRAMS, A.M., M.D. Heidelb., Consulting Physician to the Mount Zion and French Hospitals, San Francisco. Third edition, enlarged. San Francisco: Philopolis Press. 1912. Pp. 673.

THE third edition of this book, the first edition of which was reviewed in THE LANCET of Dec. 10th, 1910, is considerably enlarged, and contains additional figures and diagrams. After reading the volume carefully we see no reason to depart from the opinion then expressed—that much of the author's contentions rest on an inadequately demonstrated basis of supposed fact; and while we welcome any record of therapeutic success, we are not convinced on reading his descriptions that there is always sufficient proof of the completeness or permanence of the results apparently achieved. Dr. Abrams maintains that by tapping certain vertebral spinous processes with a hammer or pleximeter he can bring about a modification in size of certain viscera supplied from the same spinal segment, and, further, that he can dilate or contract by suitable percussion at different levels various circulatory and respiratory organs. Even assuming this to be the case, it is not always easy to follow the author in his contention that such modification in dimensions can remove a diseased state of the viscus or organ in question. If we are to judge by his own descriptions, the seventh cervical vertebra is the spinous process *par excellence* for spondylotherapy, inasmuch as he has percussed it at one time or another, and with greater or less success, in the following diseased conditions, all of which are specifically referred to in the volume under review: chilblains, coryza, asthma, acute congestion of the bronchial mucosa, diabetes, exophthalmic goitre, migraine, erythromelalgia, acrodynia, aneurysm of the abdominal aorta, cardiectatic angina pectoris, hysterical amblyopia, asthenopia, *casque nevrasthenique*, high blood pressure, emaciation, abdominal arteriosclerosis, pertussis, laryngismus stridulus, pneumonia, cardiac insufficiency with myocarditis. The list has grown somewhat since the first edition appeared.

Ophthalmoskopische Diagnostik an der Hand typischer Augenhintergrundsbilder. Von Priv.-doz. Dr. C. ADAM, Assistent an der Kgl. Univ. Augenklinik, Berlin. Berlin und Wien: Urban und Schwarzenberg. 1912. Pp. 232. Price, paper, 21 marks; bound, 24 marks.

Dr. Adam deliberately avoids the use of the word "Atlas" in the title of this work, yet its chief utility will be found in the excellent ophthalmoscopic drawings which it contains. Of these there are 86, and they include all the common diseases affecting the fundus of the eye. With the exception of those in Frost's Atlas—so long familiar to English students—they form as good a collection as any we are acquainted with. They are reproduced by a photographic method, and can, therefore, scarcely be expected to be quite as good as lithographs, but they may be warmly commended. The price of the volume is moderate, and as an atlas alone they are well worth the money to the English student, even though he be unable to read the text. For German scholars, however, the latter is well worth reading. Everything is discussed from the diagnostic standpoint, with frequent reference to the plates. Each plate, moreover, is fully described. We have a suspicion—it may be wrong—that some of the figures are not drawn from actual cases, but represent typical conditions. Even so, we do not consider it at all an objection in a book meant for students and general practitioners.

LIBRARY TABLE.

The Care of Infants and Young Children. By A. DINGWALL FORDYCE, M.D. Edin., F.R.C.P. Edin. Edinburgh: E. and S. Livingstone. Pp. 158. Price 1*s.* 6*d.* net.—This book contains much good and valuable material upon the above subjects. It is extremely simply written and is altogether very readable. It is, however, rather to be regretted that Dr. Fordyce has tried to make the book suitable for the requirements of such widely separated classes. The preface states that it is hoped the book may prove "a useful guide for mothers, nurses, health visitors, and students of medicine." As a result of this attempt there is too much medical matter for the lay woman, and although there is much that is of value for the medical student, the general treatment of the subject is undoubtedly more adapted for lay people than for the profession, and this detracts very considerably from its value for the medical student. Speaking generally, the anxiety of the lay woman to deal with medical matters needs moderating rather than encouraging, and for them a "little knowledge" about such matters as tubercle, meningitis, and syphilis may be "a dangerous thing." For all classes of readers, however, more space might have been devoted to the commoner difficulties met with in connexion with breast-feeding, which often discourage natural feeding quite unduly. Nor is any mention made of "test-feeding," the use and value of which are so well recognised. The simpler remedies for constipation, such as olive-oil and massage, which are really better than drug treatment in many cases, are left unnoticed. In the chapter on the work of the health visitor it would have been satisfactory to see some mention made of the infant consultations, to which, where existent, the health visitor can, and should, refer cases for the requisite medical supervision, and by attendance at which she may make herself proficient. Many parts of the book are, however, useful, and as a whole it is free from prejudice, and will doubtless encourage thought for, and care of, the infant and young child.

Diagnostico Precoz de la Tuberculosis Pulmonar. Por el Dr. R. PLA Y ARMENGOL. Barcelona: Herederos de Juan Gili. 1912. Pp. 410. Price 6 pesetas.—Dr. Pla y Armengol has here given us in a space of under 500 octavo pages a very complete account of modern methods for the early diagnosis of tuberculosis. He reminds his readers in his preface that tuberculosis is now allowed by all authorities to be curable, although this was not always the case. But at all times some physicians, beginning with Hippocrates, have held that it is curable—at any rate, if diagnosed and treated early. Dr. Pla y Armengol divides his book into two parts of three chapters each. The former three deal with methods of diagnosis depending on the recognition of the bacillus tuberculosis. In Chapter I. he deals with the various procedures for the detection of the bacillus in the sputum; in Chapter II. with the various tuberculin reactions, and with anaphylactic reactions; and in Chapter III. with reactions *in vitro*, such as serum agglutination, precipitation reaction, and the like. The latter three chapters treat of methods of

diagnosis independent of the recognition of the bacillus—namely, the ordinary diagnostic methods common, *mutatis mutandis*, to all diseases. Considering its small size the work is a fairly complete compendium of diagnostic methods according to modern knowledge, and an additional feature of value is a very full bibliography.

Spectroscopy. By E. C. C. BALY, F.R.S. New edition. With 180 illustrations. London: Longmans, Green, and Co. 1912. Pp. 687. Price 12*s.* 6*d.*—The previous edition of this standard work was issued in 1905, but owing to the great number of papers since published describing most important investigations in spectroscopy the author set to work to include in a new edition the substance of these nvestigations. He confesses that it has been a difficult task to do this whilst confining the book within reasonable limits of space. The chapters on phosphorescence and fluorescence and absorption spectra give, perhaps, the best evidence of reference to recent work, the author himself having contributed valuable papers from time to time on these subjects. As is well known, there are some practical applications of spectroscopy in medicine connected chiefly with absorption phenomena, but there is, of course, a far wider field of study in other directions, the interest of which increases constantly. The book will be appreciated for the careful account which it gives of the practical side of the subject, presented in the light of recent advances.

JOURNALS AND MAGAZINES.

The Journal of Hygiene. Edited by G. H. F. NUTTALL, J. S. HALDANE, A. NEWSHOLME, C. J. MARTIN, J. C. G. LEDINGHAM, and G. S. GRAHAM-SMITH. Vol. XII., No. 3. October, 1912. Cambridge University Press. Price 7*s.* 6*d.*—J. W. Cornwall describes a number of experiments on the mean lytic point of red blood corpuscles and the apparent tonicity of sheep serum, and comes to the following conclusions. The red blood corpuscles of different species have different and distinct mean lytic points. The apparent tonicity of sheep serum has no relation to the mean lytic point of the red blood corpuscles of the individual. The apparent tonicity of sheep serum is not due to its proteins or to its lipoids, and the residue of sheep serum, after removal of proteins and lipoids, is sufficiently alkaline to cause lysis.—H. R. Dean, working on the mechanism of complement fixation, finds that a dilution of an antiserum can be found which, when mixed with an appropriate quantity of the homologous antigen, forms no precipitate, but nevertheless binds the complement. If complement is added, a precipitate appears after an interval of 6 to 26 hours. The amount of the precipitate can be increased, within certain limits, by increasing the amount of complement. Similar results are obtained if an euglobulin solution is substituted for complement. By keeping a precipitating mixture of antigen, antiserum, and complement at a temperature of 0° C. it is possible to demonstrate that the resulting precipitate contains the mid-piece fraction of the complement in an active state. The precipitate fixes both fractions of the complement. The results obtained in these experiments show that the fixation of the fractions of the complement by a mixture of antigen and antiserum is essentially similar to the fixation produced by suspensions of barium sulphate and similar complement-fixing substances. These experiments confirm the recent work of Gengou on this subject. The particles of a precipitate probably absorb the euglobulin of the guinea-pig serum, and this absorption of euglobulin is an essential part of complement fixation.—G. Cox, F. C. Lewis, and E. E. Glynn investigated the number and kinds of bacteria carried by and contained in over 450 naturally infected flies caught in different parts of the city of Liverpool during September and the first part of October, 1911. The number coming from house-flies whilst struggling in a liquid may vary from 2000 to 350,000. Flies caught in insanitary or congested city areas may carry and contain from 800,000 to 500,000,000 bacteria, while those from sanitary, less congested, or suburban areas from 21,000 to 100,000. The number of intestinal bacteria is far greater in flies from insanitary areas. Of the colon group examined 19·5 per cent. belonged to the B. acidi lactici type, 12·2 per cent. to the B. coli communis type, 19·5 per cent. to the B. neapolitanus type, and 46·4 per cent. to the B. lactis aerogenes type. One bacillus, which gave identical reactions with B. enteritidis Gaertner except in regard to serological tests, was found, and one identical with Morgan's No. 1, and many others closely resembling it. Flies caught in milk shops apparently carry and contain more bacteria than those from other shops with food exposed in a similar neighbourhood. In cities where food is plentiful flies rarely migrate from the localities in which they are bred. Their observations demonstrate the necessity of efficient municipal and domestic cleanliness if the food of the inhabitants is to escape pollution.—J. C. G. Ledingham investigated separately the two processes involved in the phagocytosis of bacilli (B. typhosus) by polymorphonuclear leucocytes in the presence of a sensitising fluid—viz.: (1) the sensitisation of the micro-organism, and (2) the phagocytosis of the sensitised micro-organism. The removal of opsonins by bacillary emulsions was found to run the course of an adsorption process, as evidenced by the numerical relations found to subsist between the bound and the free opsonin in equilibrium. Also the actual phagocytosis of sensitised, or partially sensitised, micro-organisms suspended in a neutral fluid was found to proceed as an adsorption process. This interesting paper is illustrated by numerous curves.—E. C. Hort and W. T. Penfold contribute a most interesting and important paper, illustrated by 27 charts, on the relation of micro-organisms to fever. The authors had previously shown that the injection into animals of various substances suspended or dissolved in saline or water may give rise to fever which depends, not on the nature of the substances, but on contamination of the diluent employed. Water or saline may be absolutely free from living or dead micro-organisms at the time of injection, and may yet be strongly pyrogenetic. The contaminating principle in such water or saline they have shown to be a heat-stable body of small molecule, incapable of removal by ordinary method of filtration, and having no relation to the degree of demonstrable infection of those liquids. In the guinea-pig the temperature is so unstable that it is impossible to draw safe conclusions as to the temperature changes after injection. The rabbit is free from this objection, and consequently was the animal used. They further show that in injection experiments increase of the volume of the diluent has a striking effect in increasing the extent of the fever produced. They also noted that the effect may be masked if too large a dose is given. In these experiments the cultures or centrifuged organisms were killed by heating in a water-bath for two minutes at boiling point. The organisms they examined may be divided into two groups: (*a*) producing fever on intravenous injection, including B. typhosus, B. coli, B. pyocyaneus, B. subtilis, M. melitensis, B. pestis, M. catarrhalis, B. influenzæ, B. acne, S. albus and citreus, gonococcus, V. choleræ, and malleï; (*b*) producing no fever when injected after destruction by heat, including S. aureus, pneumococcus, streptococcus, B. diphtheriæ, B. anthracis, B. tetani, B. tuberculosis, and T.R. tuberculin. The medium on which the organism is grown affects the pyrogenetic properties to some extent. They found it impossible to produce any sign of immunity to the injection of the pyrogen of B. typhosus. In the case of

B. typhosus, when a suitable quantity is injected, whether of culture medium plus organisms, washed organisms separated from the medium by the use of the centrifuge, or the supernatant layers of the broth from which the organisms have been thrown down, the results are always the same. They think that, on the whole, the evidence suggests, but does not absolutely prove, that the immediate fever, which follows the injection of living or dead organisms of group *a*, is due to introduction of an adventitious heat-stable pyrogen derived from the medium, and is not due to a pyrogen extracted from the organisms. They discuss the bearing of their observations on the injections of vaccines into the human subject.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XLV., No. 4. Cambridge University Press. Pp. 213–306. Price 6*s*.—"The Gaseous Metabolism of the Heart and Lungs" has been determined by C. Lovatt Evans, who used the now well-known method of Starling and Knowlton for establishing an artificial circulation in the isolated living heart and lungs of the dog. To this was added a respiration apparatus adapted to give oxygen absorptions and amounts of CO_2 produced. The CO_2 output of the heart-lung varies from 3 to 5 c.c. per gramme of heart per hour. The oxygen intake is 3·5 to 6 c.c. The respiratory quotient of the heart on the average is 0·9, but is subject to decided variations, and when there is augmented use of oxygen it may be very low—0·6 or less. The efficiency of the heart considered as a machine is very low—e.g., from 2 to 10 per cent. An increase of temperature of 7° C. (32°–39°) results in an increase in the gaseous exchanges—the increase is almost exactly proportional to the increase in the number of beats.—"The Capacity of the Air Passages under Varying Physiological Conditions" is the subject of a contribution by C. G. Douglas and J. S. Haldane. The authors' object was to determine the "dead space" or capacity of the respiratory passages during rest and work. The maintenance of resistance in the smaller bronchi is probably of as much importance for the even distribution of air throughout the lung substance as is the resistance of the arterioles for the distribution of the blood throughout the body. During the hyperpnœa of muscular work there is a very great increase in the volume of the effective dead space in breathing. This increase is due to dilatation of the bronchi, with a consequent diminished resistance to the passage of air inwards and outwards.—"Vascular Reflexes, chiefly in Relation to the Effect of Strychnine," by the editor, J. N. Langley, is a continuation of his observations on the effects of poisons on the response of peripheral organs to nerve stimulation. Strychnine, curari, and nicotine all have a paralysing action on the majority of peripheral nerve cells. The experiments were made on cats and rabbits. After being anæsthetised, the brain activities were set aside by injecting starch grains in suspension into the peripheral end of the right carotid artery. The vagi and depressor nerves were usually cut on both sides, and the blood pressure recorded. The details are too intricate to be summarised in the space at our disposal, but we commend the contribution to the attention of pharmacologists. The author's results are at variance with those of some other observers, for he finds that strychnine does not cause a reversal in the depressor action of the depressor nerve, or of the depressor and vagus in the cat, though it does commonly modify the effect of stimulating the vagus and internal saphenous nerves in the rabbit. These two nerves contain both pressor and depressor fibres. The author, besides recording the results of his experiment, gives an interesting account as to the mechanisms by which they can be explained.—"The Conditions Controlling the Agglutination of Proteins already acted upon by Hot Water" forms Part IV. of the contributions on "Heat Coagulation" by Harriette Chick, D.Sc., and C. J. Martin, D.Sc., F.R.S., of the Lister Institute. The paper will appeal to those especially interested in this subject. The authors' summary of their results extends to about a page and a half.—"The Gaseous Metabolism of the Liver" is considered by J. Barcroft and L. E. Shore, and the first instalment, or Part I., deals with metabolism in fasting and late digestion. They determined the total blood-supply to the liver, and the following conclusions are arrived at. The coefficient of oxidation for livers of cats which had been unfed for 36 hours is from 0·005 to 0·018 per gramme per minute; for animals fed 18 hours before the experiment 0·024 to 0·050 c.c. The hepatic artery is the dominant source of oxygen supply to the liver, especially in the case of fed animals. The amount of oxygen used does not appear to be governed by the blood-supply if above a certain limit either in the liver or in the intestines.

METROPOLITAN ASYLUMS BOARD.

Appointment of a Research Bacteriologist.

THE Metropolitan Asylums Board on Nov. 30th considered a proposal by the Hospitals Committee to appoint a research bacteriologist to inquire into the incidence and causation of zymotic disease. The Hospitals Committee stated that in November, 1911, Professor G. Sims Woodhead, the Board's consultative medical adviser, made suggestions for the development of the Belmont laboratories and for extending the scope of the work there, and the committee was of opinion that no further time should be lost in appointing a medical man trained in bacteriological research work and capable of undertaking original investigations into the causation, infectivity, prevention, and treatment of zymotic disease. The several medical superintendents had been consulted in the matter and welcomed the idea. Since the year 1870 the total number of admissions to the Board's fever hospitals had been upwards of 500,000, and the number of deaths nearly 40,000. Since the Board was constituted about £15,000,000 had been expended in the provision of hospitals for, and in the treatment of, infectious sick persons, but no practical step had been taken with the view of ascertaining the causes of the diseases for which the patients were admitted. The total number of deaths from the principal epidemic diseases during the last five years in London had been 22,649, of which 10,199 (or 45 per cent.) were attributed to measles. The percentage of mortality of measles patients in the Board's hospitals in 1911 was 13·9. These facts alone the committee regarded as justifying a determined effort to save life and to reduce the great expense involved in maintaining large isolation hospitals. These results were likely to be achieved when the causes of zymotic disease had been discovered. The time of the Board's bacteriologist, Dr. G. E. Cartwright Wood, was fully occupied in clinical investigations, in the production of antitoxic serum, and many other duties, and it would not be possible for him to undertake the work the committee had in mind.

Some discussion took place on the recommendation. Canon SPRANKLING, who moved its adoption, pointed out that this country was very far behind others in the important work of original research. The reference back of the recommendation was moved on the ground that provision was made for research by the National Insurance Act, and that the Board ought not to undertake a responsibility which properly belonged to the State.

Dr. BOUSFIELD remarked that the Board had merely been "warehousing" infectious disease, treating symptoms, and making no investigations into the cause of disease. Expenditure on research would result in a saving of money to the ratepayers.

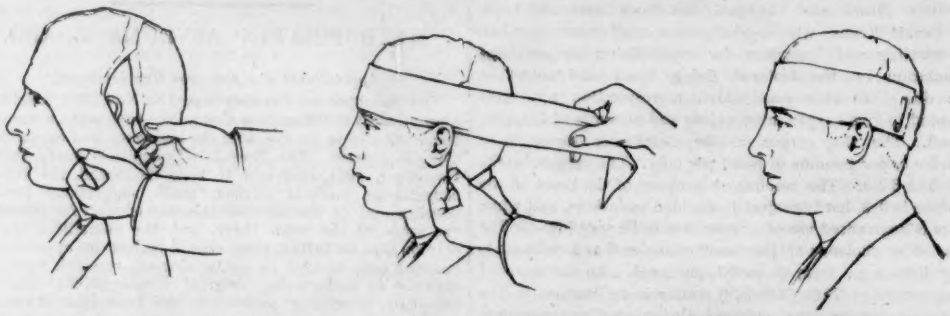
Professor W. R. SMITH pointed out that the incidence of infectious diseases in London did not show any marked diminution, and the Board had done nothing to examine into the incidence of disease, although no other authority in the world had as wide a field for investigation and research.

The reference back was defeated, and the Board decided by a large majority to appoint, subject to the approval of the Local Government Board, a research bacteriologist at a salary of £500 per annum, a committee being instructed to report further as to the details of the duties of the office.

New Inventions.

AN ADJUSTABLE HEAD BANDAGE.

THIS bandage has been invented to meet a need in military as well as hospital and private practice. It is an inexpensive article, and by its use a great saving of time and money will be effected, the final result being equal, in both efficiency and appearance, to the most elaborate bandaging yet used to retain a dressing on the head. Ordinarily many yards of bandage are used each time a complete head dressing is put on, and this material is wasted usually when once removed; in addition, it takes at least five minutes to apply, and pressure on the top of the head is very difficult to obtain. The bandage illustrated can be applied easily in 30 seconds, removed instantly, and reapplied as often as necessary. The pressure can be altered at will, and when the bandage is soiled it can be washed and sterilised an indefinite number of times. No special skill or experience is necessary to apply it. It will fit any head, owing to one side being cut with a gore. The whole article is manufactured from one piece of cloth, reinforced over the top with fine strong tape, so that the bandage is very durable. For military practice a safety-pin, a sterile cyanide gauze dressing, and the bandage are enclosed, compressed, and an impervious cover put over all. The size is $2\frac{1}{2} \times 1\frac{1}{4} \times \frac{5}{8}$ in. = 1·9 cubic inches, or 31·25 c.c., the weight being slightly over $\frac{1}{2}$ oz. The material is of linen, very strong. Its small size and the extreme rapidity with which it can be applied are points of vital importance on the field of battle, where it is possible by its use to bandage the heads of 10 patients while but one could be done in the former way. In hospitals a great saving of time and materials can be obtained, and in first-aid equipments and the medical man's emergency bag it has a distinct place. The dressing can be removed and reapplied very quickly and neatly, an obvious advantage to the medical man. The bandage may be compared to a skull-cap reaching from the eye-brows to the nape of the neck, thus enclosing the greater part of the head, making it very difficult to dislodge. The side is cut up from the part above the ear to near the top of the head. One lower edge is continued into a bandage which goes a little over the circumference of the head, being $2\frac{1}{2}$ in. wide. Thus, when lying down, the juncture and pinning positions come at the side, making it very comfortable. After an operation such as trephining a dressing can be very quickly fixed. It has already been tested successfully in actual hospital work.



The bandage can be obtained from Messrs. Burroughs, Wellcome, and Co., Snow Hill Buildings, London, E.C.

GORDON G. COPELAND, M.B. Toronto.
Toronto, Canada.

TUBE FOR IRRIGATION OF THE AURAL CAVITIES.

THE tube here figured I have found useful in some cases of suppurative otitis in which there were cholesteatomatous masses in the antrum. I believe that by means of otectomy and irrigation the aural cavities can be disinfected, but some cases of cholesteatoma have hitherto been amongst the exceptions, and it is taught in various works of otology that in such cases a radical operation is advisable. Recently I have succeeded in irrigating the antrum by means of my curved tube. This can be introduced after otectomy, and when in its proper position the opening in the side of the tube should be opposite the entrance to the antrum (the position of the tube is shown by the indicator), and the irrigating fluid can be sent straight into that cavity. In most cases of cholesteatomatous accumulation in the antrum I believe the opening into that cavity is of considerable size. In one of my cases the offensive odour did not entirely pass away until I had washed out of the antrum by means of this tube a mass of cholesteatomatous matter. Two tubes are, of course, required, one for each side.

Harley-street, W. F. FAULDER WHITE, F.R.C.S. Eng.

WALLASEY HOSPITAL AMALGAMATION: THE NATIONAL INSURANCE ACT.—A joint meeting of the subscribers to the Liscard Victoria Central Hospital and the Wallasey Dispensary was held in the board room of the former institution on Nov. 29th, when a resolution was unanimously adopted approving of the amalgamation of the two institutions, which will from Jan. 1st next be known as "The Victoria Central Hospital and Wallasey Dispensary." The invested funds of the dispensary are to be handed over to the committee of the hospital, but to be ear-marked and available only for dispensary work. The chairman said that, in the matter of the Insurance Act, some two or three months ago their medical staff notified them that after Jan. 15th they would no longer agree to attend gratuitously to patients in that hospital who were entitled to benefits under the Act. That raised a new situation. No one found fault with the decision the doctors had come to, but the hospital had no funds to pay its medical staff, and therefore they had to consider the situation. The subcommittee came to the conclusion that if the Act was going to provide money for the relief of persons suffering from sickness or accident, not only were the medical men who attended them at the hospital entitled to some financial consideration, but the hospital was also entitled to something for their maintenance. The committee decided to notify the Insurance Commissioners to that effect, and there the matter stood.

THE LANCET.

LONDON: SATURDAY, DECEMBER 14, 1912.

The Report of the Divorce Commission and the Medical Profession.

THE changes in the law which are proposed in the Report of the Royal Commission on Divorce and Matrimonial Causes, and more particularly those to which the signatories of the Minority Report object, will provide topics for much discussion before they are embodied in an Act of Parliament. With the various questions of jurisdiction and legal procedure which are raised in the report members of the medical profession are not greatly concerned, except in one direction. The hearing of matrimonial causes locally, where the suitors are poor, will tend to increase the number of occasions upon which medical witnesses will be required, while it will not entail upon such witnesses absence from their practices for indefinite periods of time and in return for inadequate fees. The Commission also recommends that all matrimonial causes shall be tried by a judge alone, and not before a jury. This is already the practice in the majority of cases, and will probably be preferred by medical witnesses, as a judge is more likely to appreciate the evidence given by them than are the members of any jury. The introduction of medical assessors to advise the judge should also in this way be rendered more easy, if such a practice should ever be instituted for cases where conflicting medical evidence is likely to be given.

But the medical profession is intimately concerned with those proposals of the Commissioners that relate to the grounds for the dissolution of marriage. Here, by the way, questions arise which all men must answer for themselves in accordance with their religious convictions and the dictates of their individual consciences, and to such matters no reference is called for. Leaving these aside, the recommendations of the Commissioners start with the proposal that the law should be amended so as to place the two sexes on an equal footing. This recommendation was widely expected; it is agreed to by the signatories of the Minority Report, and is likely to be generally acquiesced in. In Scotland the equality advocated already exists, as it does in France, Germany, Austria, the United States, several of our colonies, and most of the countries in which adultery is a ground for divorce. The grounds for divorce as recommended by the Royal Commission are as follows: (1) Adultery (including unnatural offences); (2) wilful desertion for three years and upwards; (3) cruelty; (4) incurable insanity after five years' confinement; (5) habitual drunkenness, found incurable after three years from first order, courts of summary jurisdiction having the power to grant orders of separation for not more than two years, and the High Court of the district having the power to extend such orders up to a total of three years; (6) imprisonment after commutation of a death sentence to penal servitude for life. The first of these introduces the proposed new condition of equality between men and women, for hitherto adultery has been a ground for divorce upon the husband's petition, and upon that of the wife for judicial separation only. The Commissioners state that they have not overlooked the arguments founded on physiological considerations and on the different consequences of immorality in the one case and in the other, but that these are outweighed by the further considerations which they set out. They remark upon the broad agreement of witnesses upon this point, and upon the apparent unanimity of women of all classes and of all shades of religious and political opinion. They also make interesting references to the evidence of Lord SALVESEN upon the practical working of equality under the existing law in Scotland. In spite of this unanimity of testimony, the matter will not be settled without further question by any forthcoming measure, for some of those who hold that the two sexes not being physiologically identical do not necessarily fall in the same legal categories will be found high in the ranks of the physiologists and the medical practitioners.

The conditions, to be added to those already existing, under which the Commission recommends that decrees of nullity of marriage should be obtainable as distinct from dissolution or divorce are also of great medical interest. It will be appreciated that these recommendations have the approval of the Minority, and that the decree of nullity pronounces a marriage void—i.e., declares that there has been no marriage whatever ceremony of a religious character or formality may have taken place. It is proposed that a party shall be entitled to a decree of nullity provided that the suit be instituted within one year of the marriage and that there has been no marital intercourse after discovery of the defect: 1. Where the other party is of unsound mind at the time of marriage, or in a state of incipient mental unsoundness which becomes definite within six months after marriage, of which the first party was then ignorant. 2. and 3. Where the other party is, at the time of the marriage, subject to epilepsy or to recurrent insanity, or is suffering from a venereal disease in a communicable form, and such fact is concealed from the first party, who remains ignorant of the fact at the time of the marriage. 4. Where a woman is found to be pregnant at the time of her marriage, her condition being due to intercourse with some man other than her husband. 5. Where there has been wilful refusal, without reasonable cause on the part of the other party, to permit intercourse, and where there has, in fact, been no intercourse. It is round the five grounds for divorce summarised above that controversy will take place, of which 3, 4, and 5 are those which will most concern members of the medical profession. They will be witnesses upon whose evidence, amounting to advice, the court will be obliged to depend in cases which, as they will involve the total dissolution of the marriage tie, will require more grave consideration and judgments more weighed than in the case of judicial separation; and it is with regard to these

three points also that the Commission has been guided most markedly by medical evidence, the importance of which it acknowledges in many passages of the report. More than 30 medical witnesses gave evidence, and some of this, now published in full, is valuable scientific reading. The facts entitling a party to divorce will have to be proved by evidence in a court of law, and the other party, or those representing the other party—for example, in the case of insanity—will be entitled to call evidence also. The Commissioners have given attention to the case of persons not able to obtain medical witnesses owing to lack of means or other causes, and have recommended an extension of the system of appointing medical inspectors now in use in cases in which impotence is alleged.

Cruelty is now a ground for judicial separation only, and, as our readers know, the medical evidence on the matter is very difficult to give. The Commission recommends as a definition of cruelty "such conduct by one married person to the other party to the marriage as makes it unsafe having regard to the risk of life, limb, or health, bodily or mental, for the latter to continue to live with the former," and expressly desires to see recognised as cruelty, actual physical violence, grave insults and offensive conduct, and drunkenness, the court to be satisfied that, owing to the risk specified above, it is no longer safe for the petitioner to live with the respondent. The communication of venereal disease and the compelling of a wife to prostitute herself are also specified as forms of cruelty. The Commission while wishing to see the jurisdiction of courts of summary jurisdiction preserved for the reasonable protection of the person needing it, would do away with the power of courts of summary jurisdiction to grant permanent separation orders and would substitute for such decrees of divorce pronounced by the High Court. Cruelty is now a ground of divorce in many European countries, including Austria, France, and Russia, and also in New South Wales and Victoria. The establishment of cruelty in petitions for divorce already requires medical evidence in many cases, and this will become more essential when it is remembered that the proposals are to enlarge the importance of cruelty by making it a ground for the dissolution of marriage, and to define expressly as cruelty conduct which is not physical violence, and which will only entitle to divorce in so far as it involves risk of bodily or mental health. It is essential to remember the necessity for proving this risk as a fact before the judge. In the report of the Minority this point is insisted upon, for they object that the application of the existing law as to cruelty in particular cases has been of such a nature as to bring very trifling matters within its scope, and urge that collusion will be fostered, while different standards of cruelty exist in different classes of society, as well as different conceptions of cruelty in the minds of different judges. In this matter of making cruelty a ground of divorce, as in the case of desertion, there is undoubtedly reasonable ground for divergence of opinion. There will be probably, as there are now, cases of collusion or of alleged collusion, and cases of exaggeration, and the question to be asked is whether these are to outweigh the claims of those other cases in which the cruelty is beyond question. The majority of the Commissioners prefer that there should be release from the bonds of matrimony in the latter class of case, even though incidentally some persons may take advantage of the law without good cause for doing so; and medical men, who know better than any class of the community the horrors that attend the maintenance of some marriage ties, will be of the same view.

The consideration of the arguments for and against making the insanity of one of the parties to a marriage a ground of divorce on the petition of the other party occupies considerable space in the Commission's report, and in that of the Minority. This is undoubtedly one of the most important as well as difficult of the problems with which the Commissioners had to deal. It is one upon which they had an important body of medical evidence to assist them, while a substantial divergence of opinions was expressed by medical men. We propose to leave this matter for future consideration. The intermixture here of psychological and pathological factors places the whole question on a plane by itself.

Mental Deficiency: the Dropped Bill.

THE decision of the Government to drop the Mental Deficiency Bill from its programme of measures to be passed during the present session of Parliament is deeply to be regretted, not only as it involves the postponement of legislation to deal with an urgent and growing evil, but also because it reveals so unmistakeably the true inwardness of the party politician's attitude towards questions of genuine social reform. Ostensibly, of course, the Bill has been sacrificed owing to the shortage of Parliamentary time, and some plausible justification of this sort was no doubt felt to be necessary in view of the reiterated declarations of the Home Secretary that it was the firm determination of the Government to get the measure on the statute book this year. Had no such explanation been forthcoming, the event might, perhaps, have seemed too remarkable a fulfilment of the confident prophecy of a prominent supporter of the Ministry, who distinguished himself by his efforts to obstruct the progress of the Bill in Committee, and who was able from the first to express a comfortable assurance that the intentions of the Government would have altered before Christmas. Whatever were the grounds of this politician's belief, his anticipations have been realised, and he may now have the satisfaction of feeling that, if his contributions to the proceedings in Committee showed no knowledge of the problem which this Bill was designed to deal with, they showed an intimate acquaintance with the value of ministerial promises and the stability of ministerial resolutions. Be that as it may, it is certainly somewhat unfortunate, at a moment when the virtues of representative institutions are being scrutinised with a critical and disillusioned eye, that at such a time so striking an object lesson should have been given of the indifference of politicians of either party to measures as compared with tactics.

It would be merely tedious to describe once more the

nature and gravity of this problem of the feeble-minded. The facts are familiar to all students of the question, and are not disputed by anyone who has the smallest claim to speak on the matter with authority. Nor is there any serious difference of opinion as to the principles on which a solution of the problem should be sought. The Government Bill was framed in general accordance with these principles, and on most of the points where it might have been open to criticism Mr. MCKENNA showed a most exemplary readiness to accept suggestions for its improvement. And in this connexion it is only right to acknowledge the admirable thorough ness with which the majority of the members of the Committee applied themselves to the work of revising the Bill, which, as a result of their labours, was certainly made more acceptable to moderate and cautious opinion. The alterations introduced involved, no doubt, some restriction of the scope of the measure, but this would not, perhaps, have been altogether a disadvantage in the first essay of what is admittedly a new and far-reaching experiment in social legislation; and the modifications helped to dispose of the objections taken to the Government's original proposals on the ground of their undue interference with the liberty of the subject. No sane critic, however jealous of the integrity of this principle, could question the right of society to protect itself against individuals whose mental deficiency had been already proved to be a source of positive danger to the community or a cause of suffering to themselves, and it was to individuals falling under one or other of these categories that the operation of the Bill would have been confined. It is, of course, possible that this opinion might be challenged by the weak-minded criminals and the imbecile *filles-mères* for whom it was proposed to provide more fitting and more efficient, and at the same time more humane, treatment than they have hitherto received; but it is accepted by the overwhelming majority of responsible and intelligent citizens. It is, in fact, the one gratifying feature of an unfortunate story of Parliamentary procedure that the dropping of the Mental Deficiency Bill should have elicited so many weighty and earnest expressions of public opinion in approval of the objects of this measure.

But while we may confidently anticipate that the good sense of the community will eventually assert itself in this matter, it would be idle to pretend that no mischief has been done. We live in days when even the most sentimental humanitarian can hardly be blind to the fact that for nations, as for individuals, the struggle for existence is still a stern reality, and that in that struggle efficiency is the price of survival. The events that are passing in the world to-day should afford warning enough of the fate of a country in which the interests of party politics are preferred to the serious business of national organisation. It is a lesson which is applicable to other matters besides the preparation and conduct of war, and nowhere is it more pertinent than in what has to do with the furthering of racial fitness. Here, no less surely than in military affairs, it is by its heed to detail and its promptitude in realising the importance of time that a nation will attain success.

The National Insurance Act.

OUR readers know well the position in which the medical profession stands with regard to the working or otherwise of the Act. The decision of the members of the British Medical Association, representing the great majority of the medical profession, will not be made known until the end of next week, for the votes on the one issue—viz., whether the last amended edition of the Government's offers should be accepted or not—will be counted on Thursday, Dec. 19th. Meetings in the meantime are being held by practitioners in all parts of the kingdom, and their results are receiving prominence in the daily press, so that we are made aware from day to day in which direction the tide is apparently running. We must be cautious, however, about accepting all the readings of what is taking place which are offered to us by some political newspapers; for these have throughout the struggle been willing to use the actions and attitude of the medical profession as arguments in support of, or in resistance to, the general policy of the existing Government, but have not by any large interpretation of our motives prevented the rise of public prejudice against the medical claims.

In THE LANCET this week Dr. WILLIAM GORDON, physician to the Royal Devon and Exeter Hospital, who rightly enjoys a very high professional standing, urges that a plain statement of the medical position should be made for the information of the lay press. If this be possible nothing but good could come of it. But the difficulty is that a variety of plain statements have been made to the lay press, and are being made, while no combination of them—no selection of what appears to be undeniably true in some, with rejection of what appears to be undeniably unsound in others—could be contrived either by any individual, or by any organ of public opinion, or by any association or union of professional men, which would be treated by the profession as a common basis of agreement. Especially is this the case now, when concessions have been made by the Government in response to certain demands, and when other concessions have been withheld, and when even what was presumed to be the unanimous platform of the medical profession has been somewhat modified. A concession of a demand may be only apparent; again, a refusal of a concession may be due to the fact that the principle has been already conceded. In each case, whether there has been a concession or a refusal becomes, to some extent, a matter of opinion, and in framing a plain statement this inability to take any point as accepted must form a grave difficulty. Valuable sympathy with our professional position might be created by a fair attempt to enlighten lay opinion, but at this stage of affairs any statement drawn up for the guidance of the press of the country might be immediately weakened by challenges in different directions. A year ago such a statement could have been made, and would have had, we feel sure, the best possible effect. Had it received, as we think it would have, the support of the editors of the best newspapers, much of the utterly undeserved criticism of the medical profession in this long struggle would never have seen daylight. It would have become apparent from the first that the attitude of resistance or distrust of

the medical profession was founded upon reasonable objection to the alteration of their whole professional lives without any warning. The public would have learned from the beginning three things: that the statutory body controlling both our education and our behaviour was not consulted as to the scheme of the Government; that the great Universities and Corporations granting the degrees and diplomas under which we work were not consulted; that the governing bodies of the British Medical Association and of certain other bodies created to promote the corporate interests of the profession were not consulted. Great apprehension was consequently created from the first lest the status of the medical profession should suffer under the proposed conditions, lest it should be impossible to maintain our educational standards, and lest the professional life should be so altered that there would not be sufficient candidates to carry on our work upon lines that till now have been the envy of other civilised communities. Such are the causes of our fears, and it has been no fault of THE LANCET if this has not been widely recognised.

The Provisional Regulations in their amended form have been printed as a pamphlet at the price of 2*d*., and doubtless are already in the hands of our readers; though it will be our duty to publish them in THE LANCET before the date of their coming into effect. The course of events in the procedure of the British Medical Association is to a certain extent dictated by precedent. Two days after the counting of the votes—i.e., on Saturday, Dec. 21st—the meeting of the Representative Body will advise the Council what action should be taken. If a two-thirds majority is obtained in the former body in support of a policy, that policy will be adopted by the Association. If no such majority is obtained it appears that the Association would technically be bound to fall back upon the decision reached at the annual Representative Meeting in Liverpool, which involves refusal of service.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Rudolf Ehrmann and Dr. Joh. Plesch have been recognised as *privat-docenten* of Medicine; Dr. Franz Müller as *privat-docent* of Pharmacology and Pharmacognosy; Dr. J. Fraenkel as *privat-docent* of Surgery and Orthopædics; and Dr. Otto Ringleb as *privat-docent* of Urology.—*Berne:* Dr. J. W. Schürmann has been recognised as *privat-docent* of Bacteriology and Hygiene.—*Erlangen:* Dr. Hermann Merkel has been appointed Extraordinary Professor of Forensic Medicine and Pathological Anatomy, together with the charge of the Medico-legal Department of the Pathological Anatomy Institute; and Dr. W. Brock has been recognised as *privat-docent* of Laryngology.—*Greifswald:* Dr. Paul Schroeder, Oberarzt of the Berlin University Clinic of Mental and Nervous Diseases, has been appointed to the chair of Neurology and Psychiatry, and Director of the University Clinic for those affections, in succession to Dr. E. Schultze.—*Jena:* Professor Gumprecht has been appointed to give a course of instruction in Social Hygiene.—*Kiel:* Dr. Max Brandes has been recognised as *privat-docent* of Surgery and Orthopædics.—*Munich:* Dr. Gustav Klein has been promoted to an Extraordinary Professorship of Gynæcology.—*Nancy:* Dr. Simon has been appointed to the chair of Clinical Medicine in succession to the late Dr. J. Schmitt.—*Prague (Bohemian University):* Dr. Karl Weigner, Extraordinary Professor of Anatomy, and Dr. Ottokar Srdinko, Extraordinary Professor of Histology and Embryology, have been granted the title and rank of Ordinary Professor.

Annotations.

"Ne quid nimis."

THE PROBLEM OF SLEEPING SICKNESS.

IT has been publicly stated upon high authority that the most anxious problem of the present, as well as of the future, in connexion with tropical medicine, is that of sleeping sickness. This malady, for which no specific remedy so far has been discovered, is almost inevitably fatal, and carries off its victims to the grave after a period of protracted suffering. Its ravages in Africa are common knowledge; in Uganda, for example, within a period of seven years 200,000 people out of a total population estimated at 300,000 were swept away by the scourge, and this notwithstanding many well-directed efforts by the authorities and the expenditure of large sums of money. Sleeping sickness seems now to be firmly established in certain regions of Central Africa, and in places along with the corresponding trypanosomiasis of animals, retards greatly the economical development of extensive areas of country. The infection has followed in the wake of explorers and traders, penetrating into the interior by travelling up navigable rivers and across inland lakes, advancing along new commercial routes and invading fresh districts. Some persons at home have in consequence been led to express the opinion that the opening up of certain portions of the dark continent has, at least up to the present, proved to be more of a curse than a blessing, from the point of view of health, to the unfortunate inhabitants. In the circumstances it seems somewhat remarkable that there has been hitherto no popular history and description of this terrible disease written in the English language for non-medical readers, though in Germany such a work has for some years existed, prepared, it may be added, by so able an expert on the subject as the late Professor R. Koch. To remedy this deficiency, Dr. F. M. Sandwith, Gresham professor of physic, has been prompted to prepare in a concise form a popular account of the trypanosomiasis of man and animals, his endeavour being to provide a brochure which would be found of value to explorers, missionaries, merchants, or others who might have to live for a time in Africa within the danger zone of this appalling malady, and which also might, perhaps, prove of service in affording information to the many relatives and friends of those who might be exposed to trypanosomic infection in the course of their work abroad. The material which was brought together by Dr. Sandwith was made, in the first instance, the basis of three lectures on sleeping sickness delivered by him early in 1912 at the Gresham College. This material is now published in pamphlet form[1] at the desire expressed jointly by the Research Defence Society and the Gresham Committee, which made a grant of money towards the cost of publication. It appears surprising to us that Dr. Sandwith has been able to compress within the compass of some 56 pages of print all the main facts concerning sleeping sickness in man and the trypanosomiasis of cattle without, so far at least as we can judge, omitting a single essential particular. This pamphlet, so full of valuable information and so clearly and concisely written, is sure to have the wide circulation which it deserves, and should do good service in diffusing useful knowledge which we hope may in time bear good fruit. It must specially prove of interest to all those who are anxious to prevent

[1] Sleeping Sickness. By F. M. Sandwith, M.D., F.R.C.P., Gresham Professor of Physic; Lecturer at the London School of Tropical Medicine, &c. London: Macmillan and Co. 1912. Pp. 56. Price 4*d*.

suffering and death among the native races, or who are desirous of removing the serious obstacles to progress and economic development raised by the existence of human and animal trypanosomiasis in certain regions of Central Africa.

THE PRESENT DANGER OF HUMAN INFECTION FROM THE MILK OF TUBERCULOUS CATTLE.

MEDICAL men and veterinarians have for many years been in accord in urging the necessity for the adoption of strong measures to keep in check, and eventually get rid of, the plague of tuberculosis; and a paper read by Dr. Sheridan Delépine a short time ago, at the Conference of the National Association for the Prevention of Consumption, can well be brought to the notice of our readers in the same column as the recently issued report (for 1911) of the veterinary surgeon to the corporation of Glasgow. Dr. Delépine took as the title of his paper "The Share Taken by Human and Bovine Tuberculous Products in the Infection of Young Children," and his final statement demonstrates very emphatically the necessity for the systematic and proper inspection of dairy cattle, for he states at the conclusion of his paper, "Taking all these things into consideration, I think it is possible to say, without fear of exaggeration, that not less than 25 per cent. of the tuberculous children under five years of age suffer from infection of bovine origin, and that this estimate is much lower than one based on probabilities would be." Earlier in his paper we read the gratifying statement that "as a result of the work done in Manchester during the last 14 years the amount of tuberculous milk supplied to the town has been reduced to about one-third of what it was originally, and its infectivity has also been reduced to a very considerable degree."[1] This statement is a great tribute to the work done by Dr. J. Niven and his veterinary officials, and the example of the Manchester corporation in this direction might with advantage be followed by other cities, if Parliament is still going to delay some form of general legislation on milk questions, and leave municipalities to use what local powers they can obtain in various manners. The extensive prevalence of tuberculosis in cattle and in that other animal, the pig, which feeds so largely during a certain portion of its life upon milk, is constantly brought into prominence by abattoir statistics, and those of Glasgow, carefully compiled in the veterinary report of Mr. Trotter, shows no exception to the rule. Mr. Trotter commences his report by the statement that "The most frequent disease affecting home animals is tuberculosis," and states that out of 71,745 British cattle slaughtered no less than 8932, or 12·44 per cent., proved to be tuberculous. Of these, 1398, or 15·65 per cent., of the carcases were so badly affected that they had to be destroyed. Of the pigs, out of 44,643 animals slaughtered 3740, or 8·37 per cent. were tuberculous, 91, or 2·43 per cent. of the carcases having to be totally destroyed. He calls attention to the crying necessity for enforced legislation in connexion with the inspection of dairy cows and the sale of milk, and states that a comparison of the number of cows in Scotland with the number of cows removed under the Order shows that, whilst a few authorities are doing their utmost to prevent the sale of milk drawn from animals affected with tuberculosis of the udder, there are a great many other authorities who are doing absolutely nothing. He points out how defective the "milk" clauses of the Burgh Police Act are in that they "do not compel the dairyman to notify all cases of udder disease, do not insist upon the examination of all cows being carried out by veterinary surgeons, and do not empower the local authority to slaughter useless animals." Of the prevalence of tuberculosis amongst milch cattle, further evidence was shown by the fact that of 98 cows tested with tuberculin before being admitted to the herds from which milk is supplied to the fever hospitals no less than 40 were rejected, 30 of them being positive and the other 10 doubtful reactions—truly an alarming proportion when we consider that these would all be good-looking beasts which had received the critical attention of the dairy owner beforehand in the full knowledge that they were to be tested. The danger is not, of course, that all the reacting animals give infective milk, but that such a degree of prevalence of tuberculosis must mean the presence of a high proportion of dangerously infected animals in our herds?" It is now five years since the Commission on Tuberculosis reported that "cows' milk containing bovine tubercle bacilli is clearly a cause of tuberculosis, and of fatal tuberculosis, in man." Neither the Board of Agriculture nor the Local Government Board have been sufficiently active in the matter, but we note with pleasure that Mr. John Burns has given notice this week of the introduction of a new Milk Bill into the House of Commons.

[1] See also THE LANCET, May 25th, 1912, p. 1424.

THE MILIARY PLAQUES FOUND IN SENILE BRAINS.

AMONG various interesting communications in the excellent *Transactions of the American Medico-Psychological Association* for last year is a paper by Dr. Solomon C. Fuller, of the pathological laboratory, Westborough State Hospital, Massachusetts, on a study of the miliary plaques found in the brains of the aged. It forms a weighty contribution to the elucidation of a topic which has occupied pathologists and alienists during the last few years, and has on more than one occasion given rise to somewhat acrimonious polemics. Briefly, it may be recalled that plaques of so-called miliary sclerosis have been recognised for 12 or 15 years, or more, as occurring with considerable frequency in the brains of patients suffering from senile dementia, while more recently attempts have been made to demonstrate that such plaques only occur in certain cases of senile dementia—viz., those described as constituting a class by themselves and known as Alzheimer's disease, or presbyophrenia. It has been maintained, indeed, that these plaques are the pathological substratum and pathognomonic of that variety of involutional dementia. If this were really the case, presbyophrenia might come into the toxi-infective group, especially as some have thought the plaques to be of bacterial origin, and would possess a histopathology as definite as that of general paralysis. Dr. Fuller's convincing contribution to the subject may be recommended to the notice of all whom the settling of this vexed question may concern. Histologically, miliary plaques are discrete structures of variable size in which a dark, circular homogeneous nucleus-like mass is centrally disposed. Round it is a larger and lighter area, which is, however, still darker than the adjacent brain tissue. In this outer portion are glial and nerve fibrils and also granules and globules of not definitely determined nature. The central homogeneous mass is often radially pointed, like an official seal. The whole plaque has been likened by Achucarro and others to the ray fungus of actinomycosis. Dr. Fuller's paper is based on the study of some 93 cases; his material, therefore, is adequate for the determination of definite conclusions. He finds that 87·5 per cent. of plaque cases also show convolutional atrophy, but other cases with equally marked atrophy may be without plaques. All plaque brains show more or less advanced cerebral arterio-sclerosis; on the other hand, cerebral arterio-sclerosis may be even more marked in non-plaque brains. It can have, therefore, little if any direct causal association with plaque formation. Cases of senile involutional dementia are the most likely to have plaques, but they have certainly

been found in the brains of individuals without any psychosis at all, and again, therefore, cannot be considered as characteristic of any special form of mental disease. As a rule, they are more numerous in those portions of the brain which show the maximum of general pathological alterations. Thus, in senile dementia they occur with the greatest frequency in the frontal and hippocampal regions. They are found in the molecular layer of the cortex and in the white substance, as well as in the more important layers of the cortex, which is their site of predilection, and therefore cannot be regarded as originating solely in the degeneration of ganglion cells. Probably they are formed by the deposition of the products of pathological metabolism resulting from degenerating nerve elements. Attempts at elimination and replacement, as evidenced by undoubted neural and glial proliferation in their neighbourhood, do not appear to be successful. Dr. Fuller concludes that there is considerable similarity between the lesions of senile dementia and those of normal senile involution of the brain, and believes, on histological grounds, that the former are only an intensification of the alterations found in the latter.

EUGENICS AND PUBLIC HEALTH.

AN instructive lecture on this subject was delivered in July last to the Congress of the Royal Sanitary Institute at York by Professor Karl Pearson, which, after publication in the journal of the institute, has now been issued as a pamphlet, in which form it will be read appreciatively by many. Professor Pearson has set himself to vindicate the claims of the modern statistical expert to act, in concert with the medical officer of health, as official interpreter of the records, which it is the duty of the latter to collect. "I have come," he says, "that I may endeavour to show that in the field of public health, in the treatment of social welfare, an *entente cordiale* of mathematics and medicine is of no less importance than another partnership in the diplomatic sphere." Referring to the enormous literature, in the shape of the reports of medical officers of health, which has sprung up during the last ten years, he proceeds: "I am convinced that some of you (his audience) are asking yourselves the *cui bono* of the great national record the very storage of which is becoming a 'burning' question in the smaller districts." Whilst acknowledging the courtesy of health officers in sending him their reports, Professor Pearson goes on to suggest in what respects many of them fail in point of accuracy and comprehensiveness. As illustrations of the fallacies frequently met with, he cites several instances in which valuable statistical material has been unskilfully treated, and erroneous conclusions arrived at. For example, the case is quoted of a large town from which 8000 records of infantile mortality have been received. But in the columns describing the mother's health, a statement of her condition is made in only 4 per cent. of the whole. Another example is adduced where the attempt was made, by reference to not more than 79 cases, to determine the influence of the mother's age at the child's birth on the liability of the latter to phthisis. From these few cases it was contended that "this disease falls at the beginning, and with increasing incidence on those born later in life." The great objection to the above conclusion consists in the paucity of cases used in drawing a sweeping conclusion. At least 1000, and better, 4000 should have been used in place of 79, in order to justify such a verdict. Yet another case is cited in which the statement is made by a medical officer, on the experience of only 382 deaths, to the effect that if parents have a boy at one birth it will influence the sex of the next child born to them. After examining the figures on which this opinion is founded, Professor Pearson objects that no attempt is made to ascertain whether the differences are statistically significant, but a sweeping scientific theory is based upon them that substances derived from the fœtus persist after birth and influence the sex of the next child. Whether the theory that a previous birth influences a later birth be true or not, it cannot be answered by such inadequate data and inadequate statistical methods. They can only harm the science that eugenists and the public health service alike wish to forward. Throughout his address Professor Pearson advocates the appointment, as an integral part of the public health service, of a new officer whom he proposes to style *'ιατρο-μαθηματικός*, and who should be available generally as the colleague and adviser in statistical matters of the medical officer of health. Whether or not public opinion is yet ripe for such an addition to local expenditure we are unable to say. But having read with interest what Professor Pearson has advanced in his lecture with reference to the future of public health, we recommend the pamphlet to the consideration both of students of State medicine and of the official guardians of the public health.

THE THERAPEUTIC ACTION OF DIGITALIS.

ABOUT the action of digitalis almost more than of any other valuable drug there has prevailed a tantalising uncertainty until recently. It is difficult to believe that during last century it was recommended in the treatment of aneurysm; yet so it was, on the ground that it enfeebled the circulation. One of the happiest features of the new cardiology, which owes so much to British physicians, is its gradual separation of fact from fiction in regard to the therapeutic uses of digitalis and its congeners. Systematic and prolonged observation of the effect of these drugs on patients suffering from cardiac disease, along the lines laid down by Dr. James Mackenzie, has already established certain fundamental data on which a rational plan of treatment will eventually be built. Some extremely interesting observations of this kind are reported in the current number of *Heart* (Vol. IV., Part I., p. 33), the deductions from which will carry great weight, since they are those of Professor A. R. Cushny in collaboration with Mr. H. F. Marris and Dr. M. D. Silberberg. The patients in whose cases these observations were carried out were in Dr. Mackenzie's wards at the Mount Vernon Hospital. It was found that the cardiac action of strophanthus and squill was practically identical with that of digitalis, and that the gastro-intestinal disturbances provoked in some cases by the latter could not be avoided by substituting for it another member of the group. The action of the drug proved to be twofold: on the one hand, it exercised a direct effect on the cardiac muscle, while it also heightened the vagus inhibition of the heart. By the use of atropine it was found possible to cut out this second effect and thus to study the direct cardiac action separately. The cases investigated were divisible into two groups—those in which the auricle was in fibrillation, and those in which it was acting normally. As is now well recognised, the therapeutic effect of digitalis in the former type is so striking as to be practically specific; the rapid, irregular pulse is greatly slowed, and the symptoms display a remarkable improvement, due to the fact that the slowed heart gains more diastolic rest. The clinical investigations here recorded, together with experiments carried out in the Pharmacological Laboratory at University College, seem to throw light on a matter hitherto obscure—namely, the method by which digitalis slows the heart in auricular fibrillation. As has been said, it was shown that this was not due to the vago-inhibitory effect of the drug, since the injection of atropine did not interfere in any way with the action of digitalis or strophanthin in retarding the quick,

irregular pulse of fibrillation. The next question to be answered was whether the theory is correct which ascribes this retardation to the depression of conductivity that digitalis is known to exert; whether it is due to a cutting off at the bundle of His of some of the stimuli which pass over in rapid, irregular series from the fibrillating auricle to the ventricle. The researches of Professor Cushny and his colleagues, though giving no final answer to this question, go to show that depression of conductivity by digitalis is a vagus effect, and that as the beneficial action of the drug in auricular fibrillation is due to a direct effect on cardiac muscle, it cannot be wholly ascribed to the cutting off of impulses in the auriculo-ventricular bundle. They think it possible that digitalis reduces the excitability of the ventricular musculature to some extent, and thereby renders it less responsive to the stream of irregular stimuli showered down upon it from the fibrillating auricle; but in either case, whether the benefit which patients with auricular fibrillation derive from digitalis be due to depression of conductivity or to lowering of excitability, they think it probable that the drug produces those effects indirectly by improving the nutrition of the myocardium through an augmentation of its contractile power.

NOVEMBER AT HOME AND ABROAD.

THE temperature of last month over the kingdom as a whole differed little from the normal, but had it not been for the sudden and remarkable fall to a winter level during the last week it would have been above it. The plunge into winter was, however, much more pronounced in Scotland and the adjacent parts of England and Ireland than farther south. On the early morning of the 30th the screened thermometer descended to the abnormal figure of 1° at West Linton (about 20 miles south-south-west of Edinburgh), and to below 10° in many other localities, including some in the north and north-west of England. The change to great cold was the result, primarily, of a shift of wind to the north-west and north, but the same shift of wind in the southern districts of England was only sufficient to cause a moderate degree of frost at night, followed by a partial thaw during the day. At the Kew observatory the mean maximum temperature for the month was 48°, or about a degree lower than the average, while the mean minimum of the nights was 38·5°, a figure identical with the normal. At Nottingham the means of both the maximum and minimum temperatures were the same as the November normal, and at Bath the difference was very slight. The extreme south-west of England was, as usual during November and the winter, milder both during the day and night than the other parts of the country. Newquay had a mean afternoon warmth 2° higher than London and Nottingham, and a night minimum 5° higher. At Jersey and the Scilly Isles the respective figures were 4° and 6° higher. Within the metropolitan area itself Hampstead experienced the lowest temperature both during the day and night, while Westminster had the greatest warmth. The means at the northern suburb were 46½° for the maximum and 38° for the minimum, and at Westminster the corresponding values were 49° and 39°. The extreme east and the extreme west, as represented by Greenwich and Kew, had the same mean warmth. Much of the rain in London and the country as a whole fell in the form of drizzle, and although more than half the days brought a measurable quantity, the total for the month was generally below the average. At Kew, where rain fell on 18 days, the aggregate was 1·8 in., or nearly 0·5 in. below the normal. At Westminster and Greenwich the total was about 1·5 in., and at Hampstead 1·7 in. November is proverbially a gloomy month, but it is seldom that its sunny hours are so few as during last month. At Kew the number was only 30, against an average of 50, at Greenwich 23, the average being 48 hours, at Hampstead 32 hours, and at Westminster 15 hours, against an average of 27. At the City station, Bunhill-row, the sun was hardly ever seen, and the record for the month was no more than 2½ hours instead of the normal 22 hours. The south and south-west coasts were also much less bright than usual. Many of the resorts had a mean of less than 1½ hours per day, and even at Jersey the total for the month was only 54 hours. Over a large portion of the midlands there was less sunshine than in the vicinity of London. At Nottingham the total was 13½ hours, or 26½ hours less than the average. At Westminster there were 19 days entirely sunless, at Kew and Greenwich 14, and at Hampstead 12, while in the City all the days except three were sunless. On the continent there were few long periods of settled weather, except in Italy and on the Riviera, and of the two regions the latter was much the finer. At Nice there were only four days with rain, and few with an overcast sky, while the mean warmth of the afternoons, 54½°, was about 2° greater than on the south-west coast of England and the Channel Isles, and 6° greater than in London. The mean minimum temperature of the nights, 40°, was, however, lower than on the south-west coast of England and not much higher than in London and at Bath. At Paris both the day and night temperature was lower than in London and in England generally, and as rain fell on 15 days and the sun shone for only 57 hours, the weather of the month must be considered unsatisfactory. Berlin was also within the unsettled area. On 16 days rain or snow was experienced, and the sky was rarely bright. Sharp frost occurred from time to time, and the mean minimum temperature of the nights was as low as 33°, while the mean maximum was only 43½°. At Biarritz the day temperature was about as high as that at Nice, but at night it was higher by 3°, the mean being the same as that at Newquay, and a little lower than at Scilly and Jersey. Many days were wet, especially after the 11th, and again after the 25th. Altogether there were 17 days with more or less rain, giving the large total of 7·22 in. In Italy rain was of almost daily occurrence during the earlier half of the month, but there was, nevertheless, a fair amount of sunshine, and the weather generally, although little warmer than in the south-west of England, was not unfavourable. The only part of Europe with really warm weather was the south of Spain, where the thermometer rose to 70° on many afternoons, and on most others far exceeded 60°. There was also much sunshine and very little rain. A similar condition was enjoyed during the greater part of the month along the coast of Algeria. Until towards the end the weather was mostly fine and dry, with a temperature about equal to that of a fine May in England.

THE TREATMENT OF PULMONARY TUBERCULOSIS BY ARTIFICIAL PNEUMOTHORAX.

SINCE this method of treatment was first drawn attention to by Professor Carlo Forlanini, of Pavia, in 1894, a fairly extensive trial has been made of it, and the majority of those observers who have published their results speak in favourable terms of it. Others have been deterred from trying it by serious complications which have occurred within their personal knowledge. We publish this week a paper by Dr. Claude Lillingston, whose first communication on the subject to our columns was the introduction of the method to English practitioners, in which he discusses certain theoretical considerations, stating indications for and against the treatment, and giving the results he has obtained. His experience includes 18 patients treated for periods ranging

from six months to three and a half years. The disease was advanced and active, and the prognosis was very bad in every case, yet the disease was either arrested or was undergoing arrest in 13. Five patients were either dead or dying. Amongst other observers Molon, of Venice, subjected 44 cases to the treatment. In 12 the operation could not be fully carried out owing to pleural adhesions; 6 cases became worse, death occurring in 3; but in 26 cases good results were obtained. Zubiani recorded 25 cases, success following in 14. These results indicate that in a good proportion of cases successful results may be expected. The technique requires care, and a special apparatus, including a manometer and cylinders to hold gas and an antiseptic fluid. The method therefore is not likely to be extensively used in general practice. Nitrogen gas is preferable to sterilised air. The explanation of the good results obtained has been much debated, but, as Dr. Lillingston maintains, immobilisation and drainage of the diseased lung are the chief causes which lead to arrest of the disease. The rest to the lung thus obtained brings a cessation of auto-inoculation. In order that a condition of pneumothorax may be obtained the lung must not extensively be bound down by adhesions. The class of case therefore suitable for the treatment is one in which there is active disease of one lung (the other lung being free of disease or only slightly affected), and in which ordinary therapeutical methods have not proved successful; but those cases must be excluded in which the pathological processes are in an advanced degree—namely, in which much cavitation, fibrosis, and extensive pleural adhesions exist. We would further insist that the treatment should be controlled throughout by means of the X rays, so that proof may be obtained as to whether pneumothorax has been produced and whether it has been maintained. This method of treatment, although its limitations must be recognised, will probably prove to be of value in some cases in which the prognosis has hitherto been considered very bad.

A DIPLOMA IN PSYCHOLOGICAL MEDICINE AT THE UNIVERSITY OF CAMBRIDGE.

SINCE 1875 an examination and a Diploma in Public Health, and since 1904 an examination and a Diploma in Tropical Medicine and Hygiene, have been established in the University of Cambridge, and opportunities have thus been created for training in research, which have improved the efficiency of those engaged in these special departments of medicine. But as regards the study of mental disease and the care of the insane—subjects which, together with public health and tropical medicine, may be regarded as forming the main branches of State medicine—no examination or diploma exists at Cambridge. The report furnished to the Senate of the University by the Special Board for Medicine states the case thus: "The inadequacy of the ordinary medical curriculum for the training of those who intend to devote themselves to psychological medicine cannot now be disputed. At the present time the newly qualified physician enters upon asylum service with a very insufficient knowledge alike of psychology and the physiology of the nervous system on which psychiatry and neurology depend, and of the modern methods of research in mental and nervous disorders. Once having engaged in asylum work he rarely has opportunity of learning more of these subjects." The Board, believing that an examination in psychological medicine and its cognate subjects, if established, could not fail to raise the present standard of efficiency in applicants for asylum posts, has decided to institute an examination and to grant a diploma in the subject. That a general desire for the establishment of a Diploma in Psychological Medicine exists among those best qualified to form an opinion on the subject is shown by the fact that last year the Medico-Psychological Association of Great Britain and Ireland—a body comprising about 700 members of the medical profession, nearly all of whom are engaged in this special department of medicine—addressed a letter through its President to the universities and other examining bodies of the United Kingdom, setting forth the advantages which a special examination and diploma would confer in stimulating research and in advancing knowledge of the nature and treatment of mental and nervous disorders. The first examinations for the diploma are fixed for June and July next, and all further information can be obtained from Dr. C. S. Myers, at the Psychological Laboratory, Cambridge.

THE REACTION OF URINE TO LITMUS PAPER.

IN a recent number of the *Journal of the American Pharmaceutical Association* Mr. G. H. Meeker discusses certain improvements in manipulation in determining the reaction of urine to litmus paper. Although the test appears to be a simple one, fallacies arise from the use of dry litmus-paper and from the faintness of the change of tint. The eye needs a control colour guide in order to render the results certain. The plan suggested is as follows. Half fill a small beaker with the urine and take two slips of red litmus paper, R1 and R2. Wet one slip, R1, with neutral water and lay upon a white tile. Hang the other slip, R2, over the edge of the beaker, so that it is immersed about two-thirds of its length in the urine. After three minutes lay R2 beside R1. Proceed in the same way with two slips of blue litmus paper, B1 and B2. The order on the tile should be R1, R2, B2, B1. In this way the eye can readily detect any change of colour that may have occurred. There are three possible alterations in tint: (1) R2 may become bluish, indicating alkalinity in the urine; (2) B2 may become reddish, indicating acidity; (3) R2 may become bluish and B2 reddish, indicating that the urine is amphoteric. If an alkaline reaction is observed it is important to determine whether or not it is due to ammonium carbonate. This is done by heating the tile gently until the paper slips are perfectly dry. If R2, after having become bluish, regains its reddish tint the presence of ammonium carbonate is indicated. In such case the bladder is probably infected. The colour changes indicate whether the urine is faintly or strongly acid or alkaline. It is an advisable precaution to wash the hands carefully before handling the test papers.

THE INFLUENCE OF THE CHEMICAL COMPOSITION OF THE AIR ON THE VITALITY OF MICROBES.

THE current view that certain infectious diseases may be contracted by exposure to the foul air of drains or cesspools is difficult to reconcile with the fact that such air contains fewer microbes than ordinary air. At a meeting of the Académie de Médecine of Paris on Oct. 15th M. Guéniot read a report on an important investigation made at the Institut Pasteur by M. A. Trillat which throws a new light on the dangers of foul air. The task was appropriately assigned to M. Guéniot, for he had in 1892 read a paper at the Académie entitled "Du Méphitisme de l'Air comme Cause de Septicémie Puerpérale." He related the cases of three women who lived and were confined in a foul atmosphere and suffered from puerperal fever. The care which they had received during the lying-in period was quite proper, and no source of contagion could be traced to any person by the most minute investigation. M. Guéniot therefore drew the conclusion that the fever was due to vitiated air which emanated from a water-closet, cesspool, or sink freely communicating with a drain found in these cases. But how could such contamination have a pathogenic effect on the puerpere? On consulting Dr. Miquel (of the

Observatory of Montsouris) he was informed that "the air of sewers contains fewer microbes than the air circulating in the streets of Paris," and that "the air of cesspools is free from microbes." M. Guéniot was therefore driven to the conclusion that the foul atmosphere acted as culture medium which increased the virulence of certain microbes. The microbe concerned in these cases, he thought, was the anaerobic one, the septic vibrio. But to demonstrate this theory required chemical and bacteriological knowledge which he did not possess. Now, 20 years later, the problem has been attacked by one well equipped for the purpose. M. Trillat exposed two sets of various pathogenic germs under the same conditions of temperature and moisture to pure air and to vitiated air and then cultivated them in appropriate media. He found that those exposed to vitiated air grew more rapidly than those exposed to pure air. This laboratory experience was confirmed on comparing the effect of air taken high on Mont Blanc with the air of inhabited places. He also found that certain pûtrid gases dissolved in water exercised a favourable influence on microbes contained in it. He next investigated the nature of these gases and the circumstances which determined their formation. They had one characteristic property—alkalinity. This was so feeble as to be detected with difficulty, but it clearly differentiated foul from normal air. Analysis of the gas obtained from fresh bouillon in which the proteus vulgaris was growing showed beside ammonia fatty amines and volatile substances analogous to alkaloids. Analysis of air vitiated by respiration gave similar results. A series of experiments with volatile alkaline substances showed their conservating or activating effect on germs. Ammonia present in air in the infinitesimal amount of 1 in 5,000,000 had a favourable influence on germs, but much less than that of the amines of the fatty series produced in putrefaction, such as trimethylamine and amylamine. Ammonia has also less influence than certain aromatic amines of the pyridic series allied to the alkaloids. The favourable influence increased with the molecular weight of the gases, which led to the conclusion that it was present in highest degree in the volatile ptomaines described by Gautier. The sources of these gases are innumerable, for they are produced in the decomposition of animal and vegetable substances. They are given off by fæcal matter, in respired air, from marshes, and in the emanations from the ground during earthquakes and sudden falls of atmospheric pressure. But the influence of these gases on microbes depends on a number of factors. Dosage is important. A substance may have a favourable influence in feeble dose or after short contact, while it may have an antiseptic action in larger dose or longer contact. This may explain the fact, mentioned above, that the air of sewers and cesspools is free from microbes. M. Trillat also found that distilled water containing only 1/5000000th of its weight of putrid gas acted as culture medium like bouillon. Important practical conclusions follow from these facts. In places such as towns and marshes where these gaseous emanations are present the propagation of disease is favoured when the air is charged with moisture or mist, for the emanations are dissolved in the floating droplets of water which become so many microscopic culture media. This doctrine explains also the rapid changes during storms produced in certain organic substances, such as the souring of milk and decomposition of meat and game. This has been ascribed to electrical action and to the generation of ozone. According to M. Trillat it is due to emanation of gases from the soil in consequence of the fall of barometric pressure. We may point out that these researches traverse the recent revolutionary doctrine of Dr. Leonard Hill that in ventilation chemical impurity of the atmosphere is of no importance.

ADMINISTRATION OF SANATORIUM BENEFIT IN LONDON.

Work of the Insurance Committee.

A REPORT was received by the London County Council on Dec. 3rd from Mr. J. A. Dawes, M.P., one of the Council's representatives on the Insurance Committee for London, as to the administration in London of the National Insurance Act, particularly with regard to sanatorium benefit. The report outlined the temporary scheme adopted by the Insurance Committee in order that there should be no delay in putting sanatorium benefit into operation. A temporary subcommittee was appointed for each metropolitan borough and for the cities of London and Westminster, composed of representatives of the Insurance Committee, the local authority, and the various classes of insured persons, and, where possible, persons representing the employers' interests.

The Insurance Committee had appointed a medical expert on whose advice it decided as to the granting of benefit, and as to the form that such benefit should take. As a rule, the applicant was examined in the first instance by his own medical attendant after the necessary evidence had been furnished of his qualification to receive benefit. If the Committee decided to recommend sanatorium benefit it arranged, in cases in which the medical expert advised institutional treatment, for the reception of the patient in some approved institution. Where dispensary or domiciliary treatment was advised the case was remitted to the local subcommittee to deal with. In a number of cases the medical adviser recommended hospital treatment, owing to the case being too advanced to hope that it would yield to institutional treatment, or because the patient required to be kept under observation in the first instance.

Up to Nov. 8th 495 applications had been received for sanatorium benefit. Of these 25 were not eligible, and the remainder had been dealt with as follows: Cases in sanatoriums, 84; cases in hospital, 12; cases where domiciliary treatment arranged, 34; dispensary treatment arranged, 35; hospital (out-treatment) arranged, 6; awaiting reply from Mount Vernon, 6; cases recommended, but still to be dealt with, 8; total, 185. The remainder of the cases were in process of being dealt with.

In most instances the Committee was paying 30*s.* a week in respect of patients sent to sanatoriums. Domiciliary treatment was arranged for in most cases through the patient's own medical practitioner on terms which had been temporarily agreed to by the Committee and approved by the Insurance Commissioners. For dispensary treatment a number of organisations had been approved by the Local Government Board, and many tuberculosis dispensaries were being established in various parts of London.

Schemes had been submitted by most of the temporary sanatorium subcommittees to provide for dispensary and domiciliary treatment, but these were only of a temporary character pending the final settlement of the question now under discussion between the Government and the medical profession as to the charges to be made for the treatment of tuberculosis, and pending also the formation of a more complete scheme of dispensaries for the whole of London.

The Committee had decided, on advice tendered by the Insurance Commissioners, not for the present to give sanatorium benefit to the dependents of insured persons, and this policy would be continued until a more clear idea had been obtained of the funds which would be available for the work. Particulars were being received from the various Friendly Societies with regard to insured persons in the county of London, but it would be some time yet before reliable figures were available as to the number of such persons and as to the number of deposit contributories. The Committee was dealing with the question of the appointment of permanent district committees as provided for by the Act.

Sanatorium Accommodation in London.

As an outcome of the recent conference between representatives of the Metropolitan Asylums Board, the London County Council, and the London Insurance Committee, on the subject of treatment of patients suffering from tuberculosis (THE LANCET, Nov. 16th, p. 1388), a letter from the London County Council was read at a meeting of the

Metropolitan Asylums Board on Nov. 30th. The clerk to the Council wrote that it was understood from the discussion at the conference that the Asylums Board had no vacant institution suitable for the purposes of a sanatorium, but that as a temporary measure the Board would be prepared to set apart a detached portion of one of its large country hospitals for the sole use of such tuberculous patients as the London County Council might desire to send there, and to accommodate about 500 persons. The County Council recognised that such an arrangement would not necessarily be a permanent one. The suggestion of the County Council was that the Asylums Board should make this provision, appoint forthwith the necessary medical, nursing, and domestic staff, and supply all the requisite furniture and equipment for the reception of patients at the earliest possible date. Complete control as regards the selection and admission of patients and the length of their stay would be vested in or arranged by the County Council. The medical officers of the Council, of the Insurance Commissioners, and of the Insurance Committee would have the right to visit and inspect the institution and the patients at any time, but the Council desired that the Board, on account of its recognised experience in such work, should engage the staff and undertake the general management of the institution. The Council would reimburse the Board for the entire cost, preferably by payment of a definite charge per head of the patients actually maintained, with a periodical adjustment according to the ascertained actual cost, or at a scale of charges according to the numbers maintained. Establishment expenses incurred prior to the reception of patients would be borne by the Council.

The Asylums Board decided on Nov. 30th that the only institution available for the purpose at the present time was the Lower Southern Convalescent Hospital, and that the County Council be informed that, subject to the sanction of the Local Government Board, the Board would be prepared to allocate this hospital as a sanatorium under the Insurance Act on the conditions set forth in the Council's letter. The Hospitals Committee was instructed to take steps immediately for the staffing, equipping, and opening the hospital as a sanatorium for tuberculosis patients with the least possible delay, the accommodation to be rendered available being 120 to 130 beds.

THE TREATMENT OF TUBERCULOSIS IN LONDON.

At a meeting of the medical staffs of the special hospitals for treatment of diseases of the chest in the metropolis held on Tuesday, Dec. 10th, to consider the problem of dealing with tuberculosis in London, the following resolutions were passed:—

1. That whatever arrangements be made by the hospitals for consumption and diseases of the chest to enable them to coöperate in dealing with tuberculous cases under the Insurance Act, it is most desirable that for the present such provision as already exists for tuberculous cases of all grades, and of different social groups, be fully maintained.

2. That each special hospital for diseases of the chest should be the central tuberculosis authority in its own area.

3. That all tuberculosis departments or dispensaries in such an area should be coördinated with this central authority.

4. That it is desirable that all medical matters relating to the conduct of a tuberculosis dispensary established by a chest hospital should be under the undivided control of the hospital authorities.

5. Each special chest hospital, as a central authority, should be a centre for the training of tuberculosis officers and for post-graduate instruction in tuberculosis.

6. That the formation of a tuberculosis department in connexion with each general hospital, with or without an associated dispensary area, is necessary for the adequate practical training of the undergraduate student.

7. That the principle of remuneration for all medical services rendered under the provisions of the Insurance Act in regard to tuberculosis be recognised by the management of each chest hospital.

8. That a standing committee, representative of the medical staffs of the London chest hospitals, be constituted to deal with matters of common interest as they arise.

HUNTERIAN SOCIETY.—At a meeting of this society held at the London Institution on Nov. 27th, Mr. A. H. Tubby, the President, in the chair, Dr. W. J. McC. Ettles gave a lantern demonstration showing sections of the normal eye, also of eyes in various pathological conditions. He also showed by the same means colour photographs (autochrome) and microscopical slides of various pathological states of the eye.

THE LEGISLATIVE CONTROL OF THE SALE OF POTENT DRUGS: THE BRITISH AND CONTINENTAL POSITION COMPARED.

(BY A SPECIAL CORRESPONDENT.)

ONE of the salient features in the evidence of the medical witnesses before the Parliamentary Committee on Proprietary Medicines has been the demand for further restrictions in the sale of potent drugs in order to prevent effectively the indiscriminate use of preparations likely to endanger the health of the consumer, who is in so many instances totally in ignorance of their action and possible by-effects. It is only when we compare the facility with which so many powerful drugs can be obtained in this country, and the entire absence of any restrictions with regard to the sale of so many preparations belonging to this class, with the safeguards provided in other countries, that the lack of legislative control in the interest of the general public becomes apparent.

Position in this Country.

In Great Britain the sale of a number of drugs known to possess a more or less powerful action, which, if injudiciously employed, may prove detrimental to health, is unfettered by any restrictions, nor is it even limited to those whose training entitles them to act as the legitimate purveyors of medicine to the public. This is the case with such preparations as acetanilid, antipyrin, phenacetin, male fern, calomel, thyroid substance, &c. As regards the sale of those substances enumerated in Part II. of the schedule of poisons, this is confined to registered pharmacists, and the sole formality to be observed consists in labelling the article with its name, the name and address of the seller, and the word "poison." In this way the public is able to obtain, without any difficulty and without the advice of a medical man, such potent drugs as chloral hydrate, tincture of opium, and sulphonal. In the case of patent medicines containing a scheduled poison (Part II.) all that is required is the word "poison" on the label, and as the name of the drug actually present need not be disclosed the purchaser is in ignorance of the active ingredient of his medicine. The British law as it now stands permits the practically untrammelled sale of a number of very active therapeutic agents without the advice or knowledge of a physician, and thus opens the door not only for indiscriminate self-dosing, but also for the injudicious use, often through ignorance, of potent or habit-forming drugs, and this is the point to which attention was drawn by the medical evidence during the course of the inquiry on the subject of the sale and advertising of patent medicines.

In continental countries, on the other hand, legislation has been provided to prevent the sale of potent drugs to the public except on a qualified medical practitioner's prescription, and in some countries even the repetition of prescriptions calling for certain drugs is prohibited, unless sanctioned by the renewed signature each time of the prescriber. In the first place it must be remembered that abroad the sale of all remedial agents, with the exception of a very few inoffensive, simple preparations, is confined to the pharmacists, and the supply of potent drugs, apart from the scheduled poisons, is regulated by special laws.

Restrictions in Austria and Hungary.

Thus in Austria the official pharmacopœia contains a table of drugs which may not be sold except upon a physician's prescription, and in addition to the 128 substances therein enumerated no organo-therapeutic preparations or sera may be supplied to the public without a prescription. In addition to the recognised powerful drugs such as cocaine, morphine, strychnine, arsenic, salts of mercury, &c., we find that, *inter alia*, the following drugs may not be sold except upon presentation of a qualified medical man's prescription:—Aloe, antipyrin, antipyrin salicylate, bismuth subgallate, bismuth salicylate, calomel, chloral hydrate, colocynth, caffeine, extract of male fern, formaldehyde, iodoform, jalap, phenacetin, phenyl salicylate, podophyllin, sulphonal, syrup of ferrous iodide, trional, zinc sulphate, and antimonial wine.

None of the above preparations may be sold in Austria except upon a qualified medical man's prescription, whereas in Great Britain the sale of only three of these is restricted

to pharmacists, and even then the word "poison" on the label is the sole formality required to impress the purchaser with the potent action of the drug. To distinguish the potent preparations of this class the titles of all the 128 are printed in italics in the Pharmacopœia.

In the Hungarian Pharmacopœia the potent preparations are indicated by a cross against the title, while the poisons are designated by two crosses. None of the substances so marked may be sold except as the ingredient of a qualified medical practitioner's prescription, and to repeat a medicine containing a drug designated with two crosses the renewed signature, with date, of a physician is required on each occasion. Hungary goes farther than any other country in restricting the sale of potent drugs, for in addition to the drugs marked with two crosses, such as arsenic, the poisonous alkaloids, salts of mercury, &c., which are treated in every country as dangerous poisons to be kept under lock and key, we find that among the drugs marked with one cross figure such substances as ammonium bromide, potassium bromide, potassium chlorate, potassium iodide, sodium bromide, sodium iodide, saccharin, and tincture of iodine, in addition to those substances also enumerated when speaking of the situation in Austria. It may be mentioned that nitroglycerin is included among the poisons marked with two crosses.

Provisions in Russia, France, and Italy.

In Russia none of the preparations which the pharmacist is required to keep apart from the others may be sold except upon a prescription, and here too the well-known coal-tar antipyretics are also included. This is substantially the same position as in France, where none of the articles regarded as poisons and required to be kept under lock and key may be sold without the production of a prescription.

The Italian restrictions are not quite so rigid as in the foregoing countries, and preparations such as acetanilide, phenacetin, and sulphonal may be sold to the public without a prescription, providing they are put up by the pharmacist in the form of separate doses. Only the poisons, in all 47, among which figure adrenalin and sodium cacodylate, may not be sold except upon a prescription. The Italian law contains a special provision requiring the prescriber to write out the quantity of the poison in words in prescriptions of this kind, while the pharmacist is compelled to retain all prescriptions in which a scheduled poison figures as an ingredient.

Regulations in Germany.

The German regulations concerning the dispensing and sale of potent drugs place the question of repeating prescriptions on an absolutely firm basis. A list of preparations which may not be sold except upon a qualified practitioner's or dental surgeon's prescription has been drawn up, and is added to from time to time, as newer synthetic products are found to possess a possibly toxic action. Against each preparation in this list is stated the maximum dose up to which a prescription calling for this drug may be repeated without necessitating the renewed signature of a physician, dentist, or veterinary surgeon (the latter only in the case of drugs for the use of animals). If the single dose to be taken exceeds the amount stated in the list, or if the prescriber writes on the prescription "ne repetatur," the pharmacist may not repeat the prescription, unless it is again signed and dated on each occasion by a practitioner.

The following are a few of the principal drugs included, with the maximum dose indicated against each :—

	Gr.		Gr.
Acetanilid	7½	Liq. arsenical.	7½
Antipyrin	15	Nitroglycerin	1/64
Apomorphin	1/3	Opium	2½
Arsenium and salts	1/12	Phenacetin	15
Atropine and salts	1/64	Pilocarpine and salts	1/3
Chloroform	7½	Resina jalapæ	5
Caffeine	7½	Strychnine and salts	1/6
Codeine and salts	1½	Sodium salicylate	30
Emetine	1/12	Tartar emetic	3
Ext. belladon.	3/4	Theobrom. sod. salicyl.	15
Ext. colocynth.	3/4	Tinct. aconit.	7½
Ext. filicis liq.	150	Tinct. belladon.	15
Ext. hydrast. liq.	24	Tinct. digitalis	24
Ext. hyoscyam.	3	Tinct. opii	24
Ext. opii.	2½	Tinct. nuc. vom.	15
Ext. nucis vom.	3/4	Tinct. strophanthi.	7½
Fol. digitalis	3	Vin. colchici	30
Hydrargyr. subchlorid.	15	Vin. ipecac.	75

It must be remembered that the German pharmacist who trangresses wilfully or through negligence any of the numerous regulations by which his professional life is ordered renders himself liable to heavy penalties, which are inflicted even in the case of trivial, or merely formal, offences, and the rigid supervision exercised by the Government ensures the exact application of the law. Apart from these provisions, no prescription containing chloral hydrate, chloral formamide, morphine, heroin, cocaine or their salts, preparations of ethylene, amylene hydrate, paraldehyde, sulphonal, trional, urethane, or veronal may be repeated, unless it bears on each occasion the signature, with date, of a practitioner. In this way the continued use of these powerful drugs without the knowledge of the medical attendant is rendered impossible. An exception is made in favour of prescriptions containing small quantities of morphine or heroin in addition to other drugs, where the morphine or heroin is present merely as an auxiliary and does not represent the principal active ingredient of the medicine. In this way medicines containing a total amount not exceeding half a grain of morphine, or a quarter of a grain of heroin, may be repeated without formality; this does not apply, however, to hypodermic injections.

It is apparent that in Germany, as in other continental countries, quite a number of preparations—such as acetanilide, antipyrin, extract of male fern, phenacetin, jalap, sodium salicylate, and ipecacuanha—which in England may be sold without any restriction, cannot be obtained except on presentation of a valid prescription. The German law also automatically regulates the question of repeating prescriptions by the simple expedient of prohibiting the repetition of medicines containing certain specified drugs—i.e., the powerful hypnotics, morphine and cocaine—and in the case of others makes the repetition without the prescriber's consent dependent upon a fixed maximum dose, which must be apparent from the directions for use. Thus a prescription calling for tinct. opii ℥ ss., "10 drops to be taken 3 times a day," may be repeated without any formality, but were the directions to read "to be taken as directed," or some similar formula, then the prescription must bear a practitioner's signature, and the date, each time before it may be again made up by a pharmacist.

Compared with the attitude adopted in Great Britain, the above restrictions effectively prevent the public from indulging too freely in a number of admittedly potent drugs. In the first place their sale is forbidden, which excludes deliberate self-dosing, and also prevents the taking of drugs in the form of some proprietary preparation, as the pharmacist is required by law to assure himself that no patent medicine he sells contains a drug requiring the production of a prescription, and, secondly, the use of a prescription for further self-treatment is either limited or entirely stopped.

THE NEW INSTITUTE OF PHARMACOLOGY, UNIVERSITY COLLEGE.

ON Dec. 4th the new pharmacology laboratories at University College, London, were opened by Sir Thomas Barlow, President of the Royal College of Physicians of London. In his introductory remarks from the chair, the chairman of the college committee, Lord REAY, referred to the new constitution of the University of London, which he described as frankly a compromise. It could hardly be a matter of surprise, he said, that they were looking forward to further modification of the constitution as a result of the work of the commission presided over by the Lord Chancellor. The new Institute of Pharmacology formed part of the scheme of development of University College which took place between 1905–07. The Institute of Physiology was already in existence. The acquisition of the site of All Saints' Church in Gordon-square for a hall called for a sum of £12,000. Another projected improvement was a School of Architecture, which, with the Institute of Chemistry now being erected, called for a further sum of money. He took this opportunity of announcing that the anonymous donor of £50,000, which had made possible the removal of University College School to Hampstead, was Mr. Gwynne Evans, who had acted on the inspiration of Professor E. H. Starling and the late Dr. W. Page May.

Sir THOMAS BARLOW, in a highly interesting speech, drew a contrast between the conditions under which pharmacology was studied some 30 years ago, which he confessed he looked back on as a weariness to the flesh, and those to which the modern student had become heir. He referred to the work of the late Professor Sydney Ringer, who was a pioneer of the modern methods of pharmacological and therapeutic research, and he looked forward to the time when Professor Ringer's name would be adequately and permanently commemorated. The profession had received of late—he trusted with becoming meekness—some severe journalistic strictures on the orthodox medical attitude towards quacks and quack remedies. He thought that some of the experiments on human beings by lay practitioners under enlightened journalistic patronage singularly resembled Voltaire's satirical description of the medicine of his time. They had been asked why they discouraged the employment of tropical plants which the experience of a savage tribe had found useful in diseased conditions locally present in the habitat of that tribe. The profession was ready to admit that their use of many of the most important drugs had been for a long period empirical, but it was a rational empiricism that consisted in close observation of disease in all its aspects, leading to a use of methods of treatment, it was true, whose operation could not at the time be explained, but which carefully recorded clinical experience showed to result in definite improvement in definite morbid states—a very respectable form of empiricism. The medical profession were alive to the natural tendency of the body towards repair, to the limitations of remedies, and also to the possible harm that might result from their use. He urged those journalistic writers who assumed the function of guiding the public in its estimates of the value of medical opinion on quackery to make themselves acquainted with the methods whereby quinine was obtained from bark, morphia from opium, strychnine from nux vomica, and salicin from willow bark, and then to ask themselves whether in their own illness they would not prefer to be treated with these carefully prepared essential principles in carefully estimated dosage rather than with the old crude drugs which were the analogues of the quack nostrums.

Dr. W. P. HERRINGHAM, Vice-Chancellor of the University of London, proposed a vote of thanks to Mr. Andrew Carnegie, to whose generosity the funds for the building were due. The endowment of learning and research, he said, was the best investment for the public good. It cheapened the cost of learned men, who were very expensive to produce, yet very necessary to the public welfare. An ordinary labourer cost about £200, whereas the medical man cost about £2500. The motion was seconded by Professor A. R. CUSHNY, who described the methods of experimental therapeutics. New remedies, he said, were constantly being proposed. The drugs were first investigated as to their characteristics and properties in the physical and chemical laboratories. Their physiological properties were next investigated by trying them carefully on some animal to note what kind of effects were induced and on what organ or organs they acted. Their effects were then cautiously tried by the investigator on himself or on some of his students, and he wished to say he had never known any unwillingness on the part of students to submit themselves to a test. With the knowledge thus gained, and not before, the remedies were cautiously and watchfully used in the treatment of disease. It was now becoming generally recognised that the hope of the future lay in experimental investigation, and to this drugs like other things must be subjected.

A vote of thanks was passed to Sir Thomas Barlow, on the motion of the Principal of the University, Sir HENRY MIERS, seconded by Professor G. D. THANE, Dean of the College Faculty of Medical Sciences.

The new Institute of Pharmacology adjoins the Institute of Physiology. It covers an area of 42 feet by 50 feet, and contains, besides the basement and a mezzanine floor, three complete floors, the combined floor spaces amounting to some 6000 feet. Light is obtained on three sides. The ground floor is lined with white glazed brick. It contains a chemical room (24 × 30), a library and reading room (24 × 18), a workroom for the assistants, a chemical balance room, and a dark room. This floor is for advanced work in pharmaceutical chemistry. In the mezzanine floor are the lavatories and an animal room. The first floor is adapted for experimental research, and contains two rooms corresponding to those on the floor below, the smaller one accommodating the large kymograph, the larger one the smaller moveable kymographs and other apparatus. A wooden beam runs throughout this floor carrying the shaft with pulleys, set in motion by an electric motor, whereby power is obtained for the kymographs and other apparatus. The gas and water pipes are also carried in this beam, the latter having taps at intervals, from which water can be supplied to the various tables, and wires connected with an electric clock to give time signals also run along it. The artificial respiration pump, also, is connected with an iron pipe that runs along this beam, with taps at five points, so that artificial respiration can be carried on at different spots. A water channel along the floor underneath the beam carries off waste water, and covered electric points in the floor on each side of the water channel render light and power available at various points. On this floor are the professor's room and one for the assistant. The second floor, which is lighted from the top as well as on three sides, is the students' room for lectures and demonstrations, and laboratory work. It consists of one large room (48 feet by 25 feet) with a recessed small amphitheatre for demonstrations and a small preparation room, where the drugs and so forth are kept. This floor communicates with the theatre of the Physiological Institute.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 95 largest English towns, with an aggregate population estimated at 17,639,881 persons at the middle of this year, 8568 births and 5568 deaths were registered during the week ended Saturday, Dec. 7th. The annual rate of mortality in these towns, which had been 14·1, 15·0, and 14·5 per 1000 in the three preceding weeks, rose to 16·5 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual death-rate in these large towns averaged 14·2, against 15·0 per 1000 in London during the same period. The death-rates in the several towns last week ranged from 7·5 in Stockport, 8·0 in Ealing, 8·1 in Croydon, 8·2 in Willesden, and 8·3 in Wimbledon, to 26·2 in Tynemouth, 26·8 in Great Yarmouth, 26·9 in Stockton-on-Tees, 27·7 in West Hartlepool, and 29·3 in Bootle.

The 5568 deaths from all causes in the 95 towns were 651 in excess of the number in the previous week, and included 601 which were referred to the principal epidemic diseases, against 552 and 501 in the two preceding weeks. Of these 601 deaths, 366 resulted from measles, 75 from infantile diarrhœal diseases, 55 from whooping-cough, 54 from diphtheria, 28 from scarlet fever, and 23 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week was equal to 1·8 per 1000, against 1·6 and 1·5 in the two previous weeks. The deaths attributed to measles, which had been 293, 334, and 308 in the three preceding weeks, rose to 366 last week, and caused the highest annual death-rates of 3·1 in Edmonton, 3·3 in Newcastle-on-Tyne, 3·7 in Bath, 3·8 in South Shields, 4·4 in Preston, 4·5 in Lincoln, 4·8 in Barrow-in-Furness, 5·0 in West Ham, 5·1 in Bootle, 7·0 in Stockton-on-Tees, and 8·1 in West Hartlepool. The deaths of infants under 2 years of age referred to diarrhœa and enteritis, which had been 85, 86, and 72 in the three preceding weeks, were 75 last week, and included 21 in London, 8 in Manchester, 5 in Birmingham, 4 in West Ham, 4 in Liverpool, and 4 in Salford. The fatal cases of whooping-cough, which had been 41, 49, and 35 in the three preceding weeks, rose to 55 last week; 12 deaths were registered in London, 8 in Stoke-on-Trent, 5 in Bristol, 4 in Rhondda, 3 in West Ham, and 3 in East Ham. The deaths attributed to diphtheria, which had been 52, 41, and 43 in the three preceding weeks, increased to 54 last week, and included 9 in London, 5 in Sheffield, 4 in Manchester, and 3 in Preston. The deaths referred to scarlet fever, which had been 27, 25, and 32 in the three preceding weeks, fell to 28 last week; 5 deaths were recorded in Birmingham, 3 in Liverpool, 3 in Sheffield, 2 in Leeds, and 2 in Rhondda. The fatal cases of enteric fever, which had been 14, 17, and 11 in the three preceding

weeks, rose to 23 last week, and included 4 in London and 2 each in Birmingham, in Wigan, in Bolton, and in Manchester.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had been 2335, 2336, and 2279 at the end of the three preceding weeks, had further declined to 2266 on Saturday last; 285 new cases of this disease were admitted to these institutions during the week, against 254, 296, and 271 in the three preceding weeks. These hospitals also contained on Saturday last 923 cases of diphtheria, 802 of measles, 227 of whooping-cough, and 42 of enteric fever, but not one of small-pox. The 1494 deaths from all causes in London were 236 in excess of the number in the previous week, and were equal to an annual death-rate of 17·2 per 1000. The deaths referred to diseases of the respiratory system, which had steadily increased from 226 to 288 in the four preceding weeks, further rose to 324 last week, but were 7 below the number recorded in the corresponding week of last year.

Of the 5568 deaths from all causes in the 95 towns last week, 187 resulted from different forms of violence and 449 occurred in public institutions. The causes of 63, or 1·1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Leeds, Bristol, West Ham, Bradford, Nottingham, Leicester, and in 62 other smaller towns. The 63 uncertified causes of death last week included 14 in Birmingham, 10 in Liverpool, 5 in Gateshead, 4 in South Shields and 3 in London.

HEALTH OF SCOTCH TOWNS.

In the 18 largest Scotch towns, with an aggregate population estimated at 2,182,400 persons at the middle of this year, 1103 births and 921 deaths were registered during the week ended Saturday, Dec. 7th. The annual rate of mortality in these towns, which had been 16·3, 18·0, and 17·1 per 1000 in the three preceding weeks, rose to 22·0 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 15·9, against 14·2 per 1000 in the 95 large English towns during the same period. Among the several Scotch towns the death-rates last week ranged from 7·8 in Ayr, 14·2 in Clydebank, and 15·0 in Govan and in Motherwell, to 22·7 in Paisley and in Greenock, 23·8 in Hamilton, and 27·2 in Glasgow.

The 921 deaths from all causes were 206 in excess of the number in the previous week, and included 53 which were referred to the principal epidemic diseases, against 48 and 37 in the two preceding weeks. Of these 53 deaths, 20 resulted from whooping-cough, 13 from infantile diarrhœal diseases, 9 from measles, 7 from diphtheria, 3 from scarlet fever, and 1 from enteric fever, but not one from small-pox. These 53 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·3, against 1·8 per 1000 in the 95 large English towns. The deaths attributed to whooping-cough, which had been 11, 15, and 7, in the three preceding weeks, rose to 20 last week, and included 11 in Glasgow and 2 in Greenock. The deaths of infants under two years of age referred to diarrhœa and enteritis, which had been 10, 11, and 14 in the three preceding weeks, were 13 last week; 6 deaths occurred in Aberdeen and 2 each in Glasgow, Dundee, and Kilmarnock. The fatal cases of measles, which had averaged 3 in the five preceding weeks, rose to 9 last week, and included 5 in Motherwell and 2 in Glasgow. The deaths attributed to diphtheria, which had been 6, 10, and 8 in the three preceding weeks, were 7 last week, and comprised 6 in Glasgow and 1 in Aberdeen. Of the 3 deaths referred to scarlet fever last week, 2 occurred in Glasgow and 1 in Greenock; the fatal case of enteric fever was registered in Glasgow.

The deaths referred to diseases of the respiratory system in the 18 Scotch towns, which had been 162, 195, and 178 in the three preceding weeks, rose to 249 last week; 33 deaths were attributed to different forms of violence, against 27 and 24 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an aggregate population estimated at 1,154,150 persons at the middle of this year, 551 births and 486 deaths were registered during the week ending Saturday, Dec. 7th. The annual rate of mortality in these towns, which had risen from 17·0 to 19·7 in the three preceding weeks, further rose to 22·0 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual death-rate in these Irish towns averaged 18·1 per 1000; in the 95 large English towns the corresponding death-rate did not exceed 14·2, while in the 18 Scotch towns it was equal to 15·9 per 1000. The annual death-rate in the several towns last week was equal to 21·7 in Dublin (against 17·2 in London), 23·5 in Belfast, 21·8 in Cork, 17·9 in Londonderry, 31·1 in Limerick, and 13·3 in Waterford, while in the remaining 16 smaller towns the mean rate did not exceed 19·4 per 1000.

The 486 deaths from all causes in the 22 Irish towns were 49 in excess of the number in the previous week, and included 50 which were referred to the principal epidemic diseases, against numbers increasing from 40 to 51 in the three preceding weeks. Of these 50 deaths, 28 resulted from measles, 11 from diarrhœal diseases, 6 from scarlet fever, 2 from whooping-cough, 2 from diphtheria, and 1 from enteric fever, but not one from small-pox. These 50 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·3 per 1000; the death-rate from these diseases last week was equal to 1·8 per 1000 in the 95 large English towns, while in the 18 Scotch towns it did not exceed 1·3. The deaths attributed to measles, which had been 23, 24, and 29 in the three preceding weeks, were 28 last week, and included 13 in Belfast, 8 in Limerick, and 5 in Dundalk. The deaths referred to diarrhœal diseases, which had been 11, 12, and 12 in the three preceding weeks, were 11 last week, and included 8 of infants under 2 years of age; 5 deaths occurred in Dublin and 4 in Belfast. The 6 fatal cases of scarlet fever were slightly in excess of the average in recent weeks, and included 4 in Belfast. The 2 deaths referred to whooping-cough were registered in Dublin and Clonmel respectively. The fatal cases of diphtheria and enteric fever occurred in Dublin.

The deaths referred to diseases of the respiratory system in the 22 Irish towns, which had been 83, 91, and 84 in the three preceding weeks, rose to 108 in the week under notice. Of the 486 deaths from all causes, 141, or 29 per cent., occurred in public institutions, and 6 resulted from different forms of violence. The causes of 25, or 5·1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 95 large English towns the proportion of uncertified causes of death last week did not exceed 1·1 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Frederick Davidson Lumley has been placed on the Retired List at his own request (dated Dec. 5th, 1912).

The following appointments have been notified:—Surgeons: G. T. Verry to the *Victory*, additional, for disposal; E. MacEwan to the *Victory*, additional, for disposal, and to the *Racer*, additional; and H. B. Hill to the *Victory*, additional, for disposal.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon William George Barras to be Staff Surgeon (dated Nov. 10th, 1912).

ROYAL ARMY MEDICAL CORPS.

Surgeon-General H. G. Hathaway has embarked for a tour of service in India. Surgeon-General L. E. Anderson has been transferred from the Indian to the Home Establishment, and appointed Deputy Director of Medical Services in the Irish Command.

Lieutenant-Colonel A. E. Tate, honorary physician to H.E. the Viceroy and Governor-General of the East Indies, has taken up duty as Assistant Director of Medical Services to the Allahabad Brigade, on transfer from Headquarters First (Peshawar) Division. Lieutenant-Colonel T. Daly has arrived home from India, tour expired. Lieutenant-Colonel A. A. Sutton, D.S.O., recently senior medical officer, Sierra Leone Protectorate, has been selected for the increased rate

of pay under Article 317 of the Royal Warrant for Promotion. Lieutenant-Colonel R. J. Copeland has been selected for appointment as Medical Inspector of Recruits in the Northern Command, England. Lieutenant-Colonel W. W. O. Beveridge, D.S.O., has taken up duty at the Royal Army Medical College as Professor of Military Hygiene, in succession to Brevet-Colonel C. H. Melville, whose tenure of the appointment has expired.

Major R. L. Argles has arrived home for duty from India, tour expired. Major R. J. Blackham, specialist sanitary officer to the First (Peshawar) Division, has been selected for appointment to command the Military Hospital at Jutogh, Simla District, with effect from February next. Major S. W. Sweetnam, at present on leave of absence home from India, has been placed under orders for transfer from the Sixth (Poona) Division of the Southern Army in India to the Aden Brigade, in succession to Lieutenant-Colonel H. H. Brown, tour expired. Major W. B. Winkfield has been placed under orders for transfer from the Third (Lahore) Division for a tour of service in Burma. Major J. D. Alexander has been granted eight months' leave of absence home from India. Major W. P. Gwynn has been transferred from the Military Hospital at Rangoon to Shwebo Cantonment, Burma. Major A. M. MacLaughlin, specialist sanitary officer in the Scottish Command, has vacated his appointment and embarked for a tour of service with the Ninth (Secunderabad) Division, by exchange with Major L. F. F. Winslow, in charge of the Military Hospital at Sheffield, who now remains at home.

Captain H. L. Howell has been selected by H.E. the Commander-in-Chief in India for appointment as a Specialist in the Prevention of Disease, and has been placed in charge of the Bacteriological Research Laboratory at Brigade Headquarters, Ahmednagar. Captain A. E. G. Fraser has been transferred from the Military Hospital at Cairo to Khartoum for duty. Captain C. Ryles, at present serving at Karachi, has been granted six months' leave of absence home from India. Captain F. Forrest has joined the Irish Command for duty on return from service at Bangalore. Captain E. G. L. Lithgow has been selected for appointment as Medical Officer of the Central Flying School at Upavon. Captain V. C. Honeybourne, in charge of the Section Hospital at the Crater, Aden, has arrived home on leave of absence. Captain T. T. H. Robinson, at present in charge of the Cantonment Dispensary at Nazirabad, has been detailed for duty on board the transport ss. *Rewa*, leaving Bombay for Southampton. Captain A. H. Bond has been transferred to the Home Establishment for duty on the expiration of his leave of absence from India. Captain K. A. C. Doig has been transferred from the Military Hospital at Dover to Alderney.

The following officers have joined at the Royal Army Medical College, Grosvenor-road, S.W., for the courses of instruction for promotion to the rank of Major: Captains A. D. Fraser (Londonderry), J. A. B. Sim (Buddon), W. J. E. Bell (Cosham), J. J. O'Keefe (Roorkee), W. C. Smales (Poona), and G. B. Edwards (Bulford). Captain J. L. Lloyd has been granted six months' leave of absence home from India. Captain P. A. Lloyd-Jones has been transferred from the Aldershot Command to the London District. Captain R. B. Hole has taken up duty at Glasgow as Adjutant of the Royal Army Medical Corps School of Instruction. Captain J. F. Grant has been selected for appointment as Specialist in Electrical Science and Radiography to the Burma Division, in succession to Major G. B. Riddick, tour expired. Captain A. W. Wilson, on arrival in India, will be appointed for duty in the Sixth (Poona) Division of the Southern Army, instead of the Third (Lahore) Division. Captain W. Egan has been posted for duty to the Irish Command. Captain J. J. H. Beckton has taken up duty as Staff-Surgeon at Sialkot Cantonment.

Lieutenant T. C. R. Archer has embarked for a tour of service in South China.

INDIAN MEDICAL SERVICE.

Colonel R. W. S. Lyons has taken up duty as Assistant Director of Medical Services in the Third (Lahore) Division of the Northern Army in India, in succession to Colonel W. A. Corkery on retirement.

Lieutenant-Colonel J. M. Cadell, on return from leave of absence, has been appointed to Jhansi for duty. Lieutenant-Colonel J. G. Hulbert, civil medical officer of the Muttra District, has been placed on deputation to Kasauli. Lieutenant-Colonel J. B. Jameson has been granted six months' extension of leave of absence home from India on medical certificate. Lieutenant-Colonel E. A. W. Hall has been selected for the advanced rate of pay under Article 7 of the Royal Warrant for Promotion of March 13th, 1908, in succession to Lieutenant-Colonel E. R. W. C. Carroll, who has retired.

Major C. H. Watson has been selected for appointment as Staff Surgeon to the Headquarters of the Derajat Brigade, in succession to Captain A. H. Napier, medical officer to the 27th Punjabis. Major R. F. Baird, on completion of special duty at the Central Research Institute of India at Kasauli, has taken up duty at Gonda as Civil Surgeon. Major W. H. Kenrick, civil surgeon in the Central Provinces, has been granted furlough for four months in extension of the combined leave of absence already granted him. Major L. Erskine Gilbert has been selected for appointment as Surgeon on the staff of H.E. Lord Pentland, Governor of Madras Presidency. Major S. H. Burnett, on return from leave, has taken up duty as Superintendent of the Lunatic Asylum at Colaba, Bombay. Major C. Bowle-Evans has been appointed to the substantive medical charge of the 2nd Battalion of the 8th Gurkha Rifles at Lansdowne in succession to Colonel P. Hehir, appointed Assistant Director of Medical Services to the Burma Division. Major E. L. Ward has arrived home on leave of absence from India. Major H. Bennett has been appointed to officiate as a Civil Surgeon of the First Class during the absence on leave of Lieutenant-Colonel C. T. Hudson. Major E. S. Peck, civil surgeon at Lahore, has been granted privilege leave of absence combined with furlough on medical certificate home from India for 17 months. Major M. Dick has handed over collateral charge of the civil surgeoncy of the Meiktila District, Burma, to Captain G. B. F. Churchill, R.A.M.C., commanding the Station Hospital at Meiktila Cantonment.

Captain J. H. Murray has been selected to officiate as Superintendent of the Cellular and Female Jails, and appointed Civil Surgeon at Port Blair. His Excellency the Governor of Bombay in Council has been pleased to appoint Captain R. Markham Carter to officiate as Resident Surgeon at St. George's Hospital, Bombay, and Professor of Materia Medica and Pharmacy to the Grant Medical College, Bombay, in succession to Captain R. F. Steel, granted leave of absence. Captain W. S. McGillivray has been selected for appointment as Specialist in Otology, Laryngology and Rhinology. The services of Captain H. M. Brown have been replaced at the disposal of His Excellency the Commander-in-Chief in India by the Home Department. Captain A. Cameron, on completion of special duty at Kasauli, has been appointed to officiate as Superintendent of the Central Prison at Benares in succession to Captain C. E. Palmer, granted privilege leave of absence for three months. Captain H. R. Nutt has arrived home on leave of absence from India. Captain H. C. Buckley, at present officiating as civil surgeon at Sitapur, has been placed under orders for transfer to Basti. Captain C. E. Southon, plague medical officer at Shahpur, has been transferred to Gurdaspur. Captain H. Ross, chief plague medical officer in the United Provinces of Agra and Oudh, has been granted privilege leave for three months combined with nine months' study leave and 12 months' furlough. Captain A. N. Thomas has been appointed to the substantive Medical Charge of the 105th Mahratta Light Infantry. Captain F. A. Barker has been appointed to the Jail Department in the Punjab as a temporary measure, under the orders of the Home Department. Captain W. D. Keyworth has been appointed to take over officiating Medical Charge of the 110th Mahratta Light Infantry. Captain D. Heron has been selected by the Foreign Department of the Government of India for duty at Seistan. Captain E. P. Wernicke, at present on general duty at Nagpur, has been appointed to officiate as Civil Surgeon at Hoshangabad.

Lieutenant C. H. Smith has been selected for appointment as Specialist in Advanced Operative Surger to the First (Peshawar) Division of the Northern Army in India.

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

In the December issue of this journal Colonel C. H. Melville, Lieutenant-Colonel W. W. O. Beveridge, D.S.O., and Captain N. Dunbar Walker give the result of Some Observations on Metabolism in Connexion with an Experimental March. Two practical points in connexion with march

discipline which seem deducible from these observations are:—1. "That if a man has to go short of water for one day the effect on the water available for perspiration, that is, for temperature regulation, may persist, even in a well-trained man, for about 48 hours. The mere fact that a plentiful supply of water is available on the next day will only tend to increase his urinary secretion, not to redress at once the disturbance in water content of his dehydrated tissues. ..... It is extremely important to regulate the supply not only from day to day, but also in the course of every day." 2. The importance of training in lessening the demand for "water available" due almost certainly to more efficient "condition." As long as a man is soft his water-supply needs far more careful regulation than it does when he has got into good campaigning condition. (The fluid actually drunk did not include alcoholic stimulants.) Spinal Analgesia is the subject of a paper by Major J. W. H. Houghton, which he concludes by recommending the method to those engaged in surgical work as being most useful in the army. In a series of 400 operations under spinal analgesia at the Cambridge Hospital, Aldershot, the injection was quite satisfactory, and in none was there any cause for anxiety as to the patient's condition.[1] The Training and Working of an Indian Sanitary Section are discussed by Major R. Tilbury Brown; and an ex-soldier (G. Fahey), of the 88th Connaught Rangers, whose interesting and useful articles on Practical Hints on Marching and Health on Active Service were recently concluded, now takes up the subject of rations on active service. Under the title of Organic Development on the Earth: the Evidence and its Meaning, Colonel R. F. Firth systematises some thoughts which were suggested to him by a perusal of Dr. Arthur Keith's Hunterian Lectures for 1912 on Certain Phases in the Evolution of Man.

THE MILITARY SURGEON.

In the November issue is a full account of the annual meeting of the Association of Military Surgeons, U.S.A., at Baltimore, Maryland, in October. There a paper was read by Surgeon-Major S. H. Chang, of the Chinese War Office, on Health and Individual Sanitation on Active Service, in which, with many other excellent rules, he advised that, if water should not be available for clothes washing, the soldier should be taught to brush his underclothing thoroughly with a stiff clothes brush, especially about the seams, and then expose it to sunlight, for "in campaign it is sometimes hard to prevent vermin," as was the experience often in South Africa. Major E. L. Munson, in a most important paper, shows that the fate of nations has at times been altered by the ruin brought on their armies by preventable diseases. Thus he holds that the promising plans of the United States for the capture of Canada in 1775–6 were brought to ruin mainly by small-pox, dysentery, and camp diseases. The armies started from the United States some 4000 strong; both were ruined by disease. At the last, Quebec was besieged by an American force which had dwindled to 1600 men, of whom 900 were sick and 700 only were fit for duty. Small-pox killed more men than did the enemy. A surgeon of that time describes the camps: "Their camp is nastier than anything I could conceive, their latrines, kitchens, graves, and places for slaughtering cattle all mixed up." Then Major Munson quotes the great expedition of Napoleon to St. Domingo in 1802. More than 20,000 men landed there in February, 10,000 later. 15,000 men perished of yellow fever in two months; in six months the force was annihilated, and Napoleon's great scheme to establish France in Louisiana was shattered. As a result he sold it to the United States, which, no longer hemmed in on the west by the Mississippi, had the way clear to the Pacific Coast. Mahan introduced historians to "The Influence of Sea Power on History"; perhaps his countryman Major Munson may yet give us a companion work on "The Influence of Sanitation on History," when we hope he will take as his motto that pregnant saying of the great Sidney Herbert, "Prevention gives us soldiers, cure gives us pensioners." Assistant Surgeon-General W. C. Rucker, of the Public Health Service, gave an address on the Master Key of Sanitation, the principle that was behind all preventive work, and that, he said, was non-promiscuity; keeping disease away from one, by avoiding the persons, parasites, or things infected or carrying it. P. A. Surgeon I. G. Liegler tells us that the sick list of a marine detachment at Panama has fallen from 7 per cent. in 1906 to 1·4 in 1910 and 1 per cent. in 1911. Employments are very carefully provided for the men's spare time; thus the band is voluntary; there are picture shows, tennis-courts, and company baseball competitions. Men stand service in the Canal Zone best on their first visit; recruits endure the tropics best. Captain G. H. Richardson used tincture of iodine (7 per cent.) as an application to all erythemata and blisters about the feet, telling the men to report themselves next day. "All who reported were invariably well and needed no further treatment." Like so many continental surgeons, he is concerning himself with the best method of carrying iodine tincture on active service. At the meeting of the association Major Charles Lynch, the editor of the *Military Surgeon*, handed in his resignation, which was received with regret, and the association presented him with a silver salver to mark its appreciation of the zeal and ability with which he has conducted this splendidly educational paper. The association took the greatest interest in the account of the field training of the Royal Army Medical Corps at Aldershot as it was detailed to them by Lieutenant-Colonel S. Hickson, R.A.M.C., and Major E. L. Munson declared that the medical officers of the Royal Army Medical Corps had reached the goal to which they in the United States were striving.

[1] cc THE LANCET, Oct. 12th, 1912, p. 1003.

DEATHS IN THE SERVICES.

Brigade-Surgeon Thomas Stick Veale, late I.M.S., recently in his eighty-second year. He served in the Indian Mutiny, 1857–58; with the Bhootan Expedition, 1865–66; and in the Afghan war, 1879–80 (a medal on each occasion). He was a surgeon at the Army Civil Hospital at Renkioi during the Crimean war.

HEALTH OF THE ARMY IN 1911.

The Director-General's annual report on the health of the army for the year 1911 (Vol. LIII.) has just been published by His Majesty's Stationery Office, and is now on sale at the price of 1*s.* 8*d.* each copy. In his introductory letter to the Secretary of the War Office, Sir William Gubbins states that the improvement in the health of the troops is maintained, and it is satisfactory to report that the ratios for admissions to hospital, invalids discharged, and the average number constantly sick are the lowest recorded, while those for deaths and invalids sent home are practically the same as last year, which were up till then the lowest on record.

Correspondence.

"Audi alteram partem."

DIATHERMY BY THE HIGH-FREQUENCY APPARATUS.

To the Editor of THE LANCET.

SIR,—In a communication to the Sixth International Congress of Medical Electrology and Radiology, held last October at Prague, I pointed out that at the Third International Congress of Physiotherapy, held in Paris in April, 1910, Dr. Nagelsmith, of Berlin, presented a communication on diathermy, or thermopenetration, by the use of a special apparatus with which I have had an opportunity of experimenting upon myself, first in Barcelona, and subsequently at the Charité, Paris. Diathermy, however, is not a novel method, as Dr. Nagelsmith would have us believe. He regards it as a recent method, superior to d'Arsonvalisation. In the discussion Dr. Bouchon very rightly remarked that the thermic action of high-frequency currents was made known in 1901, through a communication by Professor d'Arsonval to the Academy of Sciences, in which he says that a person will clearly experience the sensation of heat on taking hold with his hands of the poles of a small solenoid. Dr. Cicera Salse, of Barcelona, also presented a study of the local diathermic applications of high-frequency currents. In the Congress at Barcelona Dr. Bonnefoy, of Cannes, in a communication on the action of high-frequency currents on the circulation and the temperature of the organism, reported that since 1903 he had published in the *Annals of Electrobiology* many clinical cases proving the thermic effects of d'Arsonvalisation. In October, 1904, in a further study he had published other observations confirming the first, and a year later he had

presented to the British Electro-therapeutic Society a further communication dealing with the same subject. Subsequently to this, Dr. W. F. Sommerville, of Glasgow, undertook his very interesting thermometric researches which proved the influence of high-frequency currents in the elevation of temperature. But Dr. Bonnefoy, in his remarkable book on arthritism and its treatment by the high-frequency and high-tension currents, observes that the sensation of heat can be obtained after many daily applications. He also says that in cases in which after 15 or 20 days' treatment heat is not yet felt, he makes two applications daily, and so obtains the desired result in the course of a few days. For more than four years I made applications of high-frequency currents by the condensator bed, like Dr. Bonnefoy, but after a treatment lasting several days my patients scarcely felt heat. Among them one (H. M.), after treatment lasting many months, never experienced the slightest sensation of heat.

At the Congress at Barcelona in September, 1910, the statement of Professor Doumer that the condensator bed seemed to him doomed to disappear surprised me. But on my return to Cairo I discarded my condensator bed. At first I connected one pole of the small solenoid with a bifurcated wire joined to two "manchons," which are held one in each hand. The other pole is attached by a single wire to a plate fixed on a wooden plank, on which the patient places his bare feet. By this means I felt from the first the heat in the arms exactly as with the special apparatus of Reiniger, Gebbert, and Schall. H. M., who with the condensator bed had never felt the heat before, declared at the second application by this method that he felt it well. In August, 1911, I treated H. C., a female patient, who was suffering from elephantiasic obesity, and who weighed 146 kilos. Every day before the light bath she had an application of diathermy for a quarter of an hour. Immediately after the first application she declared that she felt the heat up to the shoulders, and in a week's time she felt it very deeply all over the body, more than in the light bath. J. C., an arthritic male, 65 years old, declared at the end of the first application of ten minutes that he felt the heat all over his body. On the following days he began to perspire five minutes from the beginning of the application, and in ten minutes the perspiration dropped down his face and hands.

For the last two years I have adopted this simple modification. Among my patients were a corpulent middle-aged Egyptian and an English lady of great stature. At the end of the first application they declared that they felt the heat all over the body to the extent of almost perspiring, notwithstanding that it was in winter. I hope that this simplified mode of treatment by the high-frequency current may soon be applied on a large scale and may take the high place it deserves in therapeutics for the welfare of the patients.

I am, Sir, yours faithfully,

Cairo, Nov. 9th, 1912. Dr. S. C. DAMOGLOU.

THE THERAPEUTICS OF SCARLET RED.

To the Editor of THE LANCET.

SIR,—Your annotation of Sept. 30th, 1911, on the therapeutics of scarlet red induced me then to give my own experience of the preparation. At that time I did not know of any untoward effects having followed its use. In the *Medical Record* of Nov. 16th, 1912, p. 897, Lyle describes a case in which these occurred, and quotes one which Gurbski[1] has recorded, both suffering from headache, dizziness, gastralgia, intense nausea, and vomiting. Gurbski's patient was a child of 11, who, 15 hours after the application (to a burn involving the greater part of the right lower extremity) of amidoazotoluolsalbe, suffered from dizziness, vomiting, cyanosis, and albuminuria. A similar effect occurred with a woman of 50, treated by Lyle for burns of the chest, forearms, and wrists. Dry applications were used until sloughs separated, when scarlet-red ointment (8 per cent. in the U.S.P. boric ointment) was applied to a small area, and gradually extended. On the 16th day of this treatment she had headache and dizziness, followed by intense epigastric pain and vomiting of a violent kind. Later, the pain affected the right upper quadrant of the abdomen, and was most marked at the pyloric area. The ointment was intermitted, and the symptoms disappeared, only to return a week later when its use was resumed. On a third attempt no toxic symptoms occurred.

In regard to Lyle's case it may be remarked that similar effects have followed the application of boric ointment itself to large raw areas. I personally use a 6 per cent. ointment, and in some 110 cases have not found any such untoward results.

I am, Sir, yours faithfully,

Park Hospital, Hither Green, Lewisham, S.E., Dec. 3rd, 1912. JAMES RAE.

[1] Centralblatt für Chirurgie, 1910, 37, 1560.

THE HISTOLOGY OF EXPERIMENTAL RHEUMATISM.

To the Editor of THE LANCET.

SIR,—I note that neither Dr. R. Miller nor Dr. Carey Coombs, nor Professor J. M. Beattie, is opposed to the view that the "rheumococcus" is present in the normal alimentary tract. The fact that Dr. T. J. Horder was led to demonstrate this point primarily as the result of application of my differential tests to streptococci isolated from cases of malignant endocarditis is certainly not evidence of their unsoundness.

I regard the question whether or no the streptococcus most abundant in normal human saliva can produce the microscopic lesions of acute rheumatism in the rabbit as all-important in the present connexion, because if this is so then we can, perhaps, understand how the blood in cases of acute rheumatism shows no growth; for is not the local focus already present? and how common it is to get negative blood cultures in instances where streptococcus pyogenes is the local infecting agent—e.g., in cases of cellulitis and in some types of puerperal sepsis.

I wish to thank Professor Beattie and Dr. E. W. Ainley Walker for their last letters, and I have hopes that as the result of the present correspondence we are beginning to get what the diplomatists call "a basis for an agreement." I am the last person to deny the importance of adaptation among bacteria, and especially among streptococci as brought out by Dr. Walker, and I repeat that neither I nor anyone else has claimed for the tests a specific value. Much more work will have to be done before we can arrive at a decision on this matter. What I do maintain, both from my own experience and from that of others, is that my streptococcus tests are capable of giving reliable evidence as to the source and significance of a streptococcus as met with in cultures from the human body, or from air, dust, sewage, or other media recently contaminated by material derived from the alimentary tract of man or animals, such as the horse.

Furthermore, Sir, I venture to think that it would be a great advantage and a saving of time if we had in this country a specially qualified Court of Appeal to which matters such as are at present under dispute could be submitted. This committee could hear both sides, weigh the evidence, do their own experiments, and arrive at a decision. If research in medicine is to become organised, as appears possible under the Insurance Act, some such tribunal would probably be of much value in defining our knowledge on a variety of controversial subjects, not the least important of which is the etiology of acute rheumatism; and if to their scientific and judicial qualities the members of this tribunal added a capacity of synthetic criticism they would rank in my humble view higher than any legal court at present extant, not excluding the High Court of Parliament.

I am, Sir, yours faithfully,

Dec. 8th, 1912. M. H. GORDON.

DRUNKENNESS AND THE EFFECTS OF ALCOHOL.

To the Editor of THE LANCET.

SIR,—The exigencies of your space compelled you to abbreviate my Birmingham address, so that in places it is rather inconsequent. May I inform, through you, the numerous applicants for reprints that it will shortly be published in full in the *Midland Medical Review*, and that in this edition the statistical paragraph, whose inaccuracy I admit and regret, will be omitted, as not necessary to the argument? I am, Sir, yours faithfully,

Parkstone, Dec. 7th, 1912. CHAS. MERCIER.

THE ANNUAL MEETING OF FELLOWS AND MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editor of THE LANCET.

SIR,—In your issue of Nov. 30th last an account is given of the exceptionally interesting proceedings at the annual meeting of Fellows and Members at the Royal College of Surgeons of England on Nov. 21st last. On p. 1533, first column, your account says, "When the resolution was put to the meeting it was carried." May I point out that Mr. H. Nelson Hardy's resolution was *not* carried, but the *amendment* proposed by Dr. W. G. Dickinson, which stated that the meeting approved of the action of the Council of the Royal College of Surgeons "so far as it has gone." A stinging satire!

I am, Sir, yours faithfully,
SIDNEY C. LAWRENCE,
Honorary Secretary, Society of Members of the Royal College of Surgeons of England.

Dec. 10th, 1912

*** We much regret the slip by which the words "as amended" were omitted after "resolution."—ED. L.

MALAGA AS A HEALTH RESORT.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Oct. 23rd, 1909, p. 1256, appeared a short note referring to the recommendation of Malaga as a winter resort by Mr. Staniforth, British Consul in that city. It is true that patients are sometimes sent to Malaga under the impression that this place is an ideal resort for certain chest complaints. However bountiful Nature may have been in endowing Malaga with her best gifts, man has hardly done his share towards making it a suitable place of residence for invalids. Malaga consists of practically two parts—the town with the port and, to the east, the suburb of "La Caleta." In the former part are two fine avenues, breathing spaces for the populace of the dirty and insanitary town. Off these two avenues one tumbles into uneven and unclean streets filled with a medley of people—the smart officer in loosely fitting uniform at one end of the scale, the grimy and persistent beggar at the other. Malaga streets and roads are veritable traps for unwary feet. There are holes in the roadway and holes in the side walks. Stones are thrown down like rubbish into an ashpit and are left to be trampled in by the traffic. Every sort of garbage seems to find its way into Malaga streets. Escaping eastward the traveller suddenly comes upon two gateposts with the inscription "British Cemetery." This marks the beginning of the invalid quarter of Malaga, "La Caleta." It is rather a pretty spot, with trees and tombs extending up a hill side. English and German names only are seen upon the gravestones in the Protestant burial place. From this landmark one passes along a dusty and uneven road through the suburb. Here it is that invalids are recommended to stay and bask in the sun by the sea. The sun truly shines, but the seashore is cut off by a row of villas, while beyond these there is a single line of railway within a foot or so of the water's edge. An electric tramway runs along the road in front of the villas, and on the other side of the road are some picturesque houses, rising one above the other, on the sloping ground. A narrow roadway zigzags up the hill and leads to some fairly good *pensions*. It might be well for a patient to be perched up here, but the ascent is a severe effort, and below one encounters an almost perpetual cloud of dust which irritates the air passages. The Limonar is a villa-lined avenue at right angles to the main road of the Caleta. It is a pretty part, with beautifully planned gardens to each house. The effect, however, is spoilt by the state of the roads which cross it. They are the dust-holes of the villas round the corner. Their condition shocks both eye and nose. One notices all over this district a dividing line between private enterprise and the general slackness of the public authorities. The most picturesque part of this suburb is the "Miramar" further east. Here attempts have been made to lay out and develop the natural beauty of the hills. Some pretty villas with coloured tiled roofs have been built here, amidst a luxuriance of mimosa trees. One of these houses, belonging to a German doctor, is, I believe, run as a sanatorium. The climate of Malaga is equable, mild, and exceptionally dry. The annual number of rainy days is 52½; only 40 days in the year are cloudy, while 195 are entirely cloudless. The north wind, "Terral," is icily cold in winter, and when it is blowing the warmth-seeking invalid has to keep indoors. Nature has given Malaga a fine climate and natural beauty in luxuriant vegetation, but the drawbacks to living here for the invalid are the utter neglect of cleanliness in the streets, the almost perpetual dust, and the inefficiency of the drainage system. At the present time there seems no prospect of improvement. Invalids are not wanted in Malaga.

I am, Sir, yours faithfully,
M.D.

Nov. 30th, 1912.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—Almost every day fresh evidence comes to me of the serious injury inflicted on our cause by the want of a widely circulated plain statement to the public of the reasons for our resistance to the injurious proposals made to us. Not only does it prejudice our case directly by allowing an adverse public opinion to grow up—the natural product of unanswered misrepresentation—but it indirectly endangers our own *morale* through the depressing influence of such a public opinion. A clear, concise *précis* of our reasons, handed to the editor of every important newspaper in the country by a deputation of his own medical acquaintances, asking for a favourable leading article, could not fail to render yeoman service just now.

I am, Sir, yours faithfully,
W. GORDON.

Exeter, Dec. 2nd, 1912.

To the Editor of THE LANCET.

SIR,—The results of the past fortnight's negotiations have not materially affected the sacrifices which we are bound now to accept finally if we consent to work the Insurance Act on the principles irrevocably embodied in that Act and its attached Regulations.

1. We must accept the insurance risk inherent in the acceptance of fixed pay for unknown and increasing work. On the consequences of this proposition, which to some of us seems so illogical and suicidal, much has been written in our press; but they will not deter anyone who, in the natural desire to end our uncertainties by a definite agreement, is short-sighted enough to accept all the legal restrictions of the great contract now offered to us. Incidentally the cardinal principle of our determining the mode of remuneration drops out.

2. We must accept a statutory legal obligation to attend all calls; a condition absolutely novel to our profession, and destructive of our freedom and of the proper relations between patient and doctor. On this also volumes might be written.

3. We must accept dependence on Insurance Committees as our masters and paymasters, committees which, with 10 per cent. of medical members added, still remain substantially our old masters the Friendly Societies, with the added power of (1) enormously increased numbers, (2) State-aided finance, and (3) legal compulsion on their side, confirmed and ratified by our formal acceptance of the position. Bang goes another cardinal point.

4. We must accept the servitude of Regulations under liability to legal penalties and legal obligations. These Regulations, absolutely necessary under a panel system, however revolting to our instincts, have the force of law, but, unlike law, can be added to or altered or increased from time to time by the Commissioners. Bureaucracy permanently supersedes law so far as our liberties are concerned.

5. We must accept the legal duty of attending committees, both insurance and medical, now and in all future time, which will be impossible for busy practitioners, who therefore now give up definitely all practical safeguard to their interests for the future.

6. We busy practitioners must accept the liability to vexatious legal processes of complaint, costly both to our time and our pockets, by beneficiaries who will occupy the advantageous position of being (*a*) unemployed because sick, and (*b*) possessed on their side of the legal assistance and purse of the State. The existing power of free practitioners

and patients to avoid litigation or quarrel, by the simple cessation of the daily contract implied in free practice, is annihilated, because rendered illegal; an extraordinary result of compulsory bonds which has been little thought of, but which is inevitable under those bonds, and unfolds a ghastly vista before the eyes of all who care to foresee the necessary consequences of those bonds.

7. We must accept the obligatory duty of filling in various forms (keeping them always with us) and returns, and of correspondence and replies to officials whose sole duty is to exact such correspondence from us. These clerical incubuses will swallow up the little leisure and energy we have left at the day's end under this appalling contract.

8. We must either accept the new duty tacitly imposed on us of becoming common informers for the Exchequer against non-income-tax payers (for it lies on us to call upon beneficiaries to prove their incomes are below income-tax or any other limit, if we wish to enforce any limit at all); or bang goes all income limit, and with it more than another cardinal point.

9. We must accept the following propositions, explicit in the Act or underlying the financial part of the Regulations:—(*a*) Doctors are not to be trusted to dispense their own medicines, lest they administer drugs too few or too cheap. (*b*) Doctors are not to be trusted to prescribe what they believe to be best, unless a pecuniary bond is exacted from them that they will neither prescribe too few or cheap medicines nor too many or costly ones. Common sense, discretion, public spirit, honour, regard for duty, are not to be expected of doctors, but must be exacted from them by the ingenious pricks and counterpricks which beset them, if they err by one step on either side from the true path prescribed by the Regulations. These propositions, by their mechanical restrictions as well as by their implications, destroy the very life of honour in those who accept them.

10. We must accept other subsidiary conditions of the ultimatum, such as mileage to begin at three miles, which may not affect town practitioners whose practice nearly all lies along tram lines within a two-mile radius; but in country practice it is a condition which absolutely precludes acceptance. The expenditure of both time and money in single visits within this limit without full mileage allowanc from one's door would ruin innumerable practices. Mileage rates, equally important, are left unsettled, and may be equally ruinous to us.

11. We must give free certificates, on which the following reflections should be made. (*a*) Medical certificates as to fitness or unfitness, under a contract system enforced by law, are legal instruments carrying many possible legal and financial consequences, not only to the beneficiary, to his employees, and to the State, but to the writers of those legal instruments. (*b*) It is quite beyond reason that payments to a doctor adjusted strictly for medical treatment should be made to include remuneration for personal guarantees and legal obligations which form no part of medical treatment; that the giving of these "expert" guarantees, with their legal and penal potentialities on the liberty, time, and pockets of the givers, should be exacted by law without payment for the risks involved. (*c*) The only conditions under which we could safely accept such an obligation at all would be on a system of payment per attendance on a tariff, such payments being calculated to include this obligation, and accompanied by guarantees for full payment for any consequential results on our time or purses, expressly guaranteed by the State, for whose benefit and safeguard these certificates are required.

12. By this acceptance we definitely renounce the greatest of all our cardinal points, on which the freedom of private practice is based—viz., perfect freedom of choice between doctor and patient day by day. On this freedom depends the sanctity, the confidence, and the mutual self-interest which constitute the binding force on which the traditional relations between doctor and patient are based in our free practices hitherto. Acceptance of a panel system with contract capitation rates tacitly abrogates this freedom, in spite of the verbal homage paid to it in the Act; moreover, this cardinal point was safeguarded by another cardinal point—viz., that the method of payment should be decided by us, the two points being interdependent. The method of payment is not merely a financial point (as assumed by our negotiators on either side), but irrevocably involves the acceptance or rejection of the principle of free choice as well as of most of the other cardinal points of our charter; in fact, these two principles, on which everything else really depends, are given up by us on the day we accept the revised terms of the Chancellor.

13. We also accept the relegation of the great ulterior ends of the Act into the limbo of lost things—viz., the putting into practice of the most modern methods of treatment and the general advancement of the prevention of disease. These noble aims have been advanced hitherto by a free profession, having a leisured state requisite for study and reflection; and by the spontaneous altruistic impulses which have been the glory of our profession, sanctifying its drudgeries, hardships, and dangers, and owing their inspiration solely to our free state. An incessant appeal is made by newspapers and politicians to us to further these noble ends by accepting a State bondage. Can it be seriously believed that these noble ends will be promoted by a system that chains our profession in red tape and penal regulations, hampers it by an enormous insurance risk without the possibility of its data being known or put to the test of experiment; weights it with legal liabilities, threatens it with litigation by the most litigious class, the sick in mind and body? Modern methods and public hygiene will not be furthered but abrogated for a generation by the destruction of the freedom of its necessary agents.

14. Lastly, by the acceptance of the servile state for ourselves we also accept for all time the extraordinary proposition on which the Act is based—viz., that 16,000,000 persons have an absolute right to free doctoring in all illnesses, and that this proposition is good statesmanship. This proposition, though it involved a gigantic lien upon the time and leisure of doctors, does not necessarily concern them financially. But it concerns us both as ordinary citizens, and also beyond all other citizens in this aspect: that the nature of our work qualifies us alone as experts to judge of the effect this proposition will inevitably have upon the grit, endurance, self-discipline, self-respect, thrift, and initiative of the masses of our fellow-countrymen. I for one believe it to be the most damaging, destructive, and insidious injury that has ever been aimed, under the guise of philanthropy, at the grit, efficiency, and self-reliance of our race. The right is as yet half-baked, but a few months old, and having but a paper currency; but if we accept this service we shall have given it a nickel value, and by accepting it we force the State some day to redeem it in gold. By our action now we shall therefore give our professional signature to a proposition which we do not believe in, and which we consider bad both for the State finances and for its individual citizens.

15. To sum up, for a mess of pottage, which only extreme hunger should ever tempt us to swallow, we sacrifice all our existing liberties, and what is far more important we acquiesce in the degradation of a profession on which the State necessarily relies for the advancement of public health and for guidance in improving the stamina of our race. By the very terms of its offer the State definitely and permanently assesses our interest in the matter as being solely based on a sordid greed, on immediate pecuniary benefit. This has throughout been the bait dangled before us to swallow this Act.

Supposing, for arguments' sake, it had been not a mere painted fly, but real food, the pecuniary bait has never seriously attracted the masses of our profession. We value our liberty far beyond all sordid gain. It has been the root-error in the Chancellor's methods that he has utterly failed to apply himself to securing our treasured liberty, instead of trying to hook a free, educated, public-spirited, scientific profession by dangling a 9*d*. for 4*d*. bribe before their eyes, in exchange for that liberty. We believe that our liberty is necessary not only for ourselves, but in the true interests, not only of the beneficiaries, but of the State in its hygienic and public health aspects.

In conclusion, let me emphasise that alternatives do exist, which would carry out the real intentions of the Act, without these fundamental errors of principle. Schemes based on payment per attendance, though inconsistent with the framework and finance of the Act, have two overwhelming advantages both to the State and to ourselves.

1. The enormous financial liability incurred by the promise of free doctoring in all illnesses can be swept away by the imposition of some part of the cost of each attendance in cash upon the beneficiary—a provision at once wholesome for the

grit and independence of the patient, and tending automatically to safeguard the State from two-thirds of the unlimited financial liability now lying upon it.

2. All need of any restrictions upon our liberty is thereby abrogated, the bond being the simple financial bond of a tariff. All the obnoxious features of the present Act above detailed fall to the ground, leaving a free profession and a free public united as of old by the simplest of all bonds, that of self interest.

I am, Sir, yours faithfully,

Osmotherley, Northallerton, Dec. 4th, 1912. H. B. LUARD.

To the Editor of THE LANCET.

SIR,—In the Explanatory Statement just issued by the National Health Insurance Commission a new light has been thrown on the bearing of Dr. Addison's amendment in its effect on the working of the National Insurance Act. I would draw the attention of the profession to (VII.), p. 12. It will there be seen that those who "make their own arrangements" have practically the whole of that portion of their medical benefit for the provision of drugs, &c., confiscated. That is to say, whatever use is made of the 1*s.* 6*d.* or 2*s.* (nearly one-third of the whole of the said benefit), it will in no instance profit them personally unless they employ a private doctor entitled to supply medicines, if on the panel. If the private doctor they employ is not one of the few who are entitled to supply medicines, supposing he were on the panel, no part of the charges made for medicines can be defrayed out of the allowance made to the patient for medical attendance. If regarded closely this is a very important matter. The great majority of the practitioners in England and Wales at the present time always supply themselves medicines to their patients, and it goes without saying that a certain proportion of the charges to private patients represents the cost of the same. This must now be defrayed by the patient at his own cost, although he and his employer are compulsorily taxed to meet this expense. Apart from the obvious inequity of the arrangement, other injustices are perpetrated. Many of the practitioners such insured persons might select might conceivedly not be on the panel at all, and an invidious distinction is drawn between non-panel doctors in the rural and other areas, where, if on the panel, charges for drugs would be legitimate, and those resident where the same charges are not permissive. In other words, an unfair competition might be engendered, as it would be possible for the former to attract insured persons as private patients by making a reduction in their fees, which would be recouped by the privilege possessed by them of drawing on the drug portion of the medical benefit of their insured patients.

Again, it must not be forgotten that a considerable portion of the medical profession possess absolute rights at the present time to charge for medicines, notably all those licensed by the Apothecaries Society. These rights have been in effect altogether swept away with regard to attendance on a large section of the community, without any compensation. It has further been brought about, not by a clear and distinct legislative enactment, on the ground that such a privilege is subversive of the general interest, but by a side issue, inserted in the Regulations of an Act of Parliament, which, construed literally, gives no indication of any intention to take away these ancient rights of the profession.

I am, Sir, yours faithfully,

London, Dec. 7th, 1912. MAJOR GREENWOOD.

To the Editor of THE LANCET.

SIR,—The approaching formation of the medical panels seems an opportune moment to consider the establishment of a Medical Pension Fund. The matter has been carefully considered, and with the assistance of Mr. George Hardy, the well-known actuary, a preliminary scheme is now suggested for the consideration of those members of the profession who decide to take service under the National Insurance Act. My proposal is that a small proportion of the capitation fee (if that system of payment is chosen), or a definite sum per quarter as the individual medical men may decide, should be set aside to establish a fund which could be used either for insurance or pension. It may be mentioned that 6*d.* per annum per head of the insured population would produce a premium income of more than £300,000 a year. Hence, if any considerable proportion of the doctors upon the panels become contributors, a premium income would be secured sufficient to give stabillty to the fund (if managed independently), or to induce the offer of attractive terms from any of the leading insurance companies.

The details of any scheme and the arrangements necessary to make it effective will, of course, require careful consideration, but from the calculations already made I believe that such a scheme will be very advantageous to the profession. As a concrete example of what could be done, I am advised that an annual payment of £20—representing 6*d.* per head for 800 insured persons—payable between the ages of 25 and 65, would probably provide a pension for the doctor of about £180 a year at the age of 65, or a capital sum of about £1700, with the alternative, in the event of death before that age, of a payment to his heirs of £400 plus the return of any premiums paid in excess of that sum. In the event of the scheme being widely supported, and with a view to reducing the working expenses to a minimum, and thus proportionately increasing the benefits obtainable, the Insurance Commissioners might, perhaps, be induced to sanction proper arrangements under which the coöperation of the Insurance Committees may be secured in collecting the premiums at their source.

I am, Sir, yours faithfully,

Kensington, Dec. 10th, 1912. H. H. MILLS.

THIRD ANNUAL MEETING OF THE CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA IN NEW YORK CITY.

(FROM OUR OWN CORRESPONDENT.)

(*Concluded from p. 1615.*)

Problems of Obstetrical Practice.

ON Nov. 14th Dr. W. W. CHIPMAN, of Montreal, read a paper on Problems of Obstetrical Practice. Natural parturition, he said, had been too much regarded as a physiological process identical in the countess and the cow, whereas there were many factors that modified the process, making it a pathological one. Where the practice was imperfect the training was in fault. Barely one-half of the medical schools of the country had been classed as acceptable by the Council on Medical Education of the American Medical Association, and only six were really adequately equipped for clinical training in obstetrics. A recent graduate in Canada had told him that his training had consisted in being permitted to witness 12 confinements. There was some truth in the surgeon's boast that a laparotomy was less risky than childbirth. Dr. Chipman prefaced an account of the proper management of normal labour with the statement that it should begin long before labour set in.

Radical Operation for Cancer of Uterus.

Dr. THOMAS S. CULLEN, of Baltimore, read an able paper on the Radical Operation for Cancer of the Uterus, viewed from the standpoint of (*a*) permanent cure, (*b*) temporary relief. In his opinion their European *confrères* had better results in this operation because the women had more children, worked harder, and therefore were not so fat. They also sought aid earlier, so that the surgeons were more accustomed to the operation, and, consequently, more skilful in it. In America only sporadic efforts had been made to enlighten the public on the early symptoms and the advantage of early operation in cancer of the cervix. As the public had been taught the necessity of operation in appendicitis, and the necessity of, and means for, fighting tuberculosis, so they should be educated with regard to cancer, and taught that cancer was a local lesion susceptible of cure by extirpation, and not a blood disease. Under proper conditions the surgeon could save from 20 to 25 per cent. of those attacked.

Dr. WILHELM WEIBEL, of Vienna, read a paper describing the Wertheim operation.

Dr. X. O. WERDER, of Pittsburg, read a paper on the Cautery in the Radical Treatment of Cancer of the Cervix, which operation he had done in 78 cases. The primary mortality had been 5 per cent.; operability 39 per cent. 18 patients had survived the five-year limit and 13 were still well. There had been two recurrences after six years, and two after five years.

Dr. GEORGE GELLHORN, of St. Louis, read a paper on Extended Radical Operation through the Vagina for Uterine Cancer.

In the discussion on these papers, Dr. HOWARD C. TAYLOR, of New York, said that the great difference between American and European statistics was due to surgeons abroad getting their cases earlier. Women must be taught the early symptoms of cancer of the uterus, and that operation was the only cure. In Germany and Austria cases were considered inoperable that would be operated on here. Dr. Taylor submitted resolutions to the effect that a campaign of publicity should be at once undertaken to bring to the attention of every woman in the country the early symptoms of uterine cancer, and to point out its curability when detected early; and that the society should appoint a committee of five to disseminate such information by writing, or having written, articles for publication in the newspapers and magazines. The resolutions were carried and the PRESIDENT accordingly appointed Dr. Thomas S. Cullen (Baltimore), Dr. Howard C. Taylor (New York), Dr. C. Jeff Miller (New Orleans), Dr. F. F. Simpson (Pittsburg), and Dr. E. C. Dudley (Chicago).

Beginnings of Clinical Surgery at Bellevue Hospital.

On Nov. 15th Dr. STEPHEN SMITH, of New York, as a guest of the society, gave a sketch of the beginnings of clinical surgery at Bellevue Hospital, New York. In 1846, when he began the study of medicine, Dr. James R. Wood, in introducing the clinical study of surgery, met with much ridicule. If Dr. Smith had his way he would put medical students not only into hospitals as internes but into the wards as nurses. He gave a graphic description of the results of the neglect of asepsis in his student days, contrasting it with present conditions when, it was said, a physiologist who sent to Bellevue for a specimen of pus to exhibit to his class, was told that there was none in the institution.

Other Papers and Business.

Dr. E. G. ABBOTT, of Portland, Maine, read a paper on the Treatment of Lateral Curvature of the Spine; and Dr. JOHN B. MURPHY, of Chicago, in discussing the surgery of bones and joints, emphasised the point that in inflammation of joints only two tissues really became inflamed, the synovial membrane and the bone or bones, and that it was the former that especially required consideration in the treatment. Finally, Dr. E. S. JUDD, of Rochester, Minn., read a paper dealing with prostatectomy, and Dr. ALEXIS CARREL gave a brief demonstration of his method of blood-vessel anastomosis, illustrated by lantern slides.

The following officers were elected for the next year:—President: Dr. George Emerson Brewer, of New York. Vice-President: Dr. W. W. Chipman, of Montreal. General secretary: Dr. Franklin H. Martin, of Chicago. General treasurer: Dr. Allen B. Kanshiel, of Chicago. Chairman of the committee on arrangements: Dr. E. Willis Andrews, of Chicago. Chicago was chosen for the next place of meeting.

A proposal of Dr. F. H. MARTIN, of Chicago, to establish a College of Surgeons in the United States to confer supplementary degrees in surgery on lines analogous to the Fellowship of the Royal College of Surgeons of England appeared to meet with much favour. During the week no fewer than 1200 clinics were held in the hospitals of Greater New York, and several thousands of operations were performed.

Nov. 26th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Visit of the British Association.

THE executive committee appointed to make arrangements for the visit of the British Association to Birmingham in September of next year have presented an outline programme showing that provisional arrangements were being made for about half a dozen engagements each day during the week commencing Wednesday, Sept. 10th. In addition to the usual scientific meetings the President, Sir William White, will deliver his inaugural address on the Wednesday evening. The Lord Mayor will give a reception on the following night, and Messrs. Cadbury Brothers will give a garden party at Bournville on the Friday afternoon. Several excursions to places of interest in the Midlands are being arranged for the Saturday. Other garden parties and entertainments will be given, and a special feature will be two evening discourses and six popular lectures for the working classes.

Birmingham Crematorium.

At the annual meeting of shareholders Dr. A. Bostock Hill said that Birmingham now ranked sixth among the places in Great Britain as regards the number of cremations. The fact that during the year many leading people who had died had been cremated showed that among people of education this method of disposing of the dead was being more frequently resorted to, and that objections to the practice were dying out. The chief obstacles were apathy and the desire that there should be nothing which in some quarters was looked upon as sensational or objectionable. By cremation they did in one hour what took a hundred or more years to accomplish by earth burial, and this without prejudicing sanitary conditions and without lack of reverence. They thought that the City Corporation might now see its way to take over the crematorium as a public institution, but they were unable to agree to terms.

Dec. 9th.

WALES.

(FROM OUR OWN CORRESPONDENT.)

Pithead Baths.

THE question of providing baths for colliers is again being discussed in many colliery districts. There are but few colliers' houses in South Wales which are provided with fixed baths, and even where these are to be found they are often used for other purposes than for bathing. The usual custom is for the collier to bathe after his work is done in the back kitchen of his house, using for the purpose a large wooden tub made out of a 40-gallon cask. The cask when cut in two makes two tubs. There is a growing inclination on the part of the colliers for baths at the pithead, and under the Coal Mines Act of 1911 these must be provided if the majority of colliers in a district desire them. There appears to be some prospect of an improvement taking place in the existing conditions owing to the activity of the Women's Labour League, the members of which are endeavouring to influence the wives of the colliers, and are giving them information as to the advantages of the baths. On the score of decency as well as of hygiene the present arrangements should be altered.

Dental Treatment in the Swansea Schools.

The Swansea local education committee has decided, on the advice of the school medical officer, Dr. T. Evans, to appoint three local dentists for the treatment of dental cases in the school clinic at an annual expenditure of £150. Each dentist will be paid a fee of 1 guinea for an attendance at the clinic of three hours. It is in contemplation to appoint later on a whole-time dentist.

Headquarters of the Welsh National Memorial Association.

It has been decided by the executive committee to place the headquarters of the Welsh National Memorial Association at Newtown, in Montgomeryshire. Strenuous efforts were made to induce the committee to establish them in some larger town, such as Cardiff or Swansea. As the offices of the Welsh National Insurance Commissioners are to be permanently in Cardiff, it would appear that the memorial offices might more appropriately and conveniently have been in the same town.

Housing Conference at Cardiff.

It has been arranged to hold a Conference on Housing in Cardiff t the end of February next. The gathering, which is being organised by the National Housing and Town Planning Council, will include representatives from all parts of Wales and Monmouthshire, and will have under consideration, not only the adaptation of town planning schemes to Wales and Monmouthshire, but the housing question generally. In the industrial portions of South Wales, town planning presents difficulties which are not to be found in many other parts of the country. The absence of any large extent of flat areas necessitates the

building of houses on ground which is on a very considerable slope, while the possibility of subsidence taking place owing to mining operations has to be taken into account when selecting a building site. The South Wales Garden Cities Association has already started operations in the south of Wales, and in the north the Wrexham town council has purchased 130 acres of land for the purpose of carrying out a large housing scheme. Some of the sanitary authorities in the Monmouthshire valleys have been active in erecting dwellings under the provisions of the Housing of the Working Classes Acts, but it has not always been found possible to let such dwellings at a rental which would make them self-supporting. At Abercarn, for example, where 98 houses have been erected by the district council, there is an average yearly loss of £1 on each house, although the rents are as high as 6*s.* 6*d.* and 7*s.* 3*d.* a week.

Dec. 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The New Presidents.

Dr. J. J. Graham Brown has been elected President of the Royal College of Physicians, Edinburgh, in succession to Dr. Byrom Bramwell. Dr. Graham Brown is physician to the Edinburgh Royal Infirmary, a Fellow of the Royal Society of Edinburgh, and author of "Medical Diagnosis: A Manual of Clinical Methods," which reached its fourth edition some years ago.—Professor F. M. Caird has been elected President of the Royal College of Surgeons, Edinburgh, in succession to Mr. Joseph M. Cotterill. The new president is Regius Professor of Clinical Surgery in the University of Edinburgh and Surgeon to the Edinburgh Royal Infirmary. He is well known as the joint author with Mr. C. W. Cathcart of "A Student's Atlas of Bones and Ligaments" and "A Surgical Handbook."

Medical Charities in Glasgow.

In an interesting lecture recently delivered under the auspices of the Glasgow School of Social Study and Training, Professor J. Glaister gave a general survey of the medical service of Glasgow. He stated that the annual reports of the Royal Victoria and Western Infirmaries showed that these institutions alone expended annually in the charitable medical treatment of the sick poor £106,826; treated 143,657 patients, involving 470,760 individual consultations with the medical staff; and required a staff to handle that vast number of patients of no fewer than 876 medical men, nurses, &c., the medical staff alone numbering 228 medical men, of whom 52 were employed full time and the rest part-time. Of the 24 chief institutions in the city the total annual expenditure amounted to £157,964, the number of patients dealt with to 285,203, involving 637,327 consultations with the medical staffs. The number of nurses was over 1000, and the number of medical men 450. During the decade 1900–1910 the expenditure for Poor-law purposes had risen in the parish of Glasgow from £141,868 in 1900 to £302,608 in 1910, or 113 per cent. in 10 years; and in Govan parish from £72,836 in 1900 to £126,651 in 1910, or 74 per cent. in 10 years. In the medical inspection of school children by the School Boards of Glasgow and Govan close upon 39,000 children were inspected during 1911 by a medical staff of 32, of whom nine were full-time and the rest part-time officers, and by the aid of a nursing staff of 16. In the municipal medical service 10,213 patients were medically treated within the wards of Belvidere and Ruchill Fever and Small-pox Hospitals, and were nursed and cared for by staffs numbering in all 698 persons. The cost to the ratepayers of these establishments during the year 1911 was £76,392. Also of tuberculosis patients within the city 1348 suffering from lung tubercle were looked after. Inquiry showed that the membership of the various Orders of Foresters, Gardeners, Shepherds, Rechabites, Irish National Foresters, Oddfellows, and Sons of Temperance, which formed the large bulk of such organisations in the city, amounted to over 72,000 persons. These employed no fewer than 289 medical men. In summing up the whole matter, Professor Glaister said it would not be overestimating the effect of public medical service of a philanthropic character to say that close on 300,000 persons above the rank of those requiring the services of the Poor-law received medical assistance at Glasgow's medical institutions every year, and that over 30,000 received medical assistance from the medical officers of the Poor-law, and that over 76,000 persons had formed themselves into societies to secure medical assistance and monetary aliment during sickness.

The Glasgow and West of Scotland Coöperation of Trained Nurses.

The annual report of this coöperation, which has just been issued, seems to indicate that it is one of the most successful ventures of its kind. The coöperation was the outcome of the rapidly increasing demands made by the public of Glasgow and the West of Scotland for the services of fully trained nurses. The primary purpose of the association according to its constitution is to supply only thoroughly trained and fully equipped nurses, and at the same time to secure to nurses on the staff regular employment, adequate remuneration, and the advantages of a central home. The confidence of the medical profession and the public has steadily grown, so that the 185 nurses on the roll are always well employed. The number of cases attended for the year was 1960, and the amount earned by the nurses was £12,437. Since 1894, when the association was formed, 26,231 cases have been nursed and £157,497 have been earned. At the termination of a case the nurse collects the fee and pays to the lady superintendent a percentage thereof, which is placed to the credit of a common fund out of which the yearly working expenses of the coöperation are defrayed. In the early years of the association 10 per cent. was contributed, and this was afterwards reduced to 7½ per cent. Nurses now joining the coöperation pay 10 per cent. for the first two years, and after the first two years 7½ per cent. Nurses who have been seven years in the coöperation have the percentage reduced to 5 per cent. The affairs of the association are controlled by an executive committee consisting of medical men, business men, and ladies, of whom four are nurses on the staff of the coöperation.

Dec. 10th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Guarantee Fund for the Dublin Profession.

THE Dublin Local Medical Committee has recently issued an appeal to medical men residing in Dublin asking them to guarantee a fund for the purpose of recouping medical men for loss which they may suffer through acting in support of the general policy of the profession. The preliminary list of guarantors shows that a sum of about £200 is already available. The following resolution was passed unanimously at a recent meeting of the Dublin county borough Local Medical Committee:—

That the honorary secretary be requested to draw the attention of medical men in the county borough who have signed the undertaking to the fact that the terms of the undertaking pledge them not to accept any appointments from societies except through the Local Medical Committee, whether remuneration be by capitation, by fee, or by salary.

Women's National Health Association.

A special meeting of the central council of the Women's National Health Association was held in Dublin last week, and reports were submitted dealing with various phases of activity of the association. A resolution was passed requesting the various county councils to establish after-care committees for tuberculous patients.

The National Insurance Act: the Treatment of Tuberculosis.

The scheme for dealing with tuberculosis in any county or county borough in Ireland put forward by the Irish Insurance Commissioners follows largely upon the recommendations of the Astor Committee. It includes a central dispensary, with a number of branches, a sanatorium, a hospital for acute and advanced cases, hospital accommodation for cases of surgical tuberculosis, arrangements for domiciliary treatment of patients, a farm colony, and an open-air school for delicate children. The difficulty about such an initial plan in Ireland is that the public are quite unprepared for such a big scheme, while public health administration is many years behind what it is in England or even Scotland. Our Insurance Committees cannot with the money given them under the Act carry it out, and the local administrative authorities are thoroughly

afraid of the expense which, they allege, will mean increased taxation. Further, the medical practitioners are antagonistic, arguing that such a scheme is entirely opposed to the "Model Scheme for Treatment of Tuberculosis" issued by the British Medical Association and approved of by the Conjoint Committee in Ireland. They maintain that under such a plan they would be put aside, their position being taken by whole-time tuberculosis officers, while the enormous cost of working it would leave a very small sum for paying them for domiciliary attendance on tuberculous patients. They regard—and in this the public and the various local authorities are largely with them—such a scheme as totally unworkable in Ireland. In Belfast, in particular, the position of matters is very curious; the Local Insurance Committee has only a sum of £2000 with which to work temporarily the sanatorium benefit up to next April—that is in an industrial city with a population of over 390,000 inhabitants, while the city corporation, which some time ago made pulmonary tuberculosis a notifiable disease, has no settled scheme ready to deal with the problem, and has declined—when requested by the Local Insurance Committee—to take any temporary measures. As a result, at the Abbey Sanatorium, which is one of the finest sanatoriums in the three kingdoms, having 265 beds, containing accommodation for every type of tuberculosis, there are now between 30 and 40 insured consumptive patients. Now this splendid sanatorium was built by the Belfast board of guardians and is in their control, but under the National Insurance Act its working finds no place because it is a Poor-law institution. It is only natural that the guardians should feel that they ought to be paid for the insured patients, while the Belfast Insurance Committee say they cannot legally recognise any institution that is under the Poor-law.

The Irish Insurance Commissioners have intimated that they cannot sanction the scale of charges asked for insurance tuberculosis patients by the governors of the Forster Green Sanatorium, Belfast (see THE LANCET, Nov. 30th, 1912, p. 1548), nor can they agree to the scale of fees put forward by the County Antrim practitioners, the odd circumstance being that they are agreeing to higher terms in the South of Ireland. It is said that the Newcastle Sanatorium and the Peamount Institution (which is largely subsidised by the £25,000 given to the Women's National Health Association of Ireland, out of the money available for Ireland) will take in consumptives for 1 guinea weekly. The board of management of the Royal Victoria Hospital, Belfast, have decided not to enter into any temporary arrangement for the treatment of insured cases of surgical tuberculosis. The medical profession in Ireland feel they will need to make a very strong fight in reference to the domiciliary treatment of tuberculosis, which both the Astor Report and the model plan set up by the British Medical Association recommended, but which the Irish Insurance Commissioners do not apparently like, as they are anxious that whole-time officers should take charge of the dispensaries. In industrial centres in Ireland the serious question of the voluntary hospitals is coming rapidly up for careful consideration.

Walter Bernard, F.R.C.P.Irel., M.R.C.S. Eng.

It is with sincere regret I announce the death, in his 86th year, of Mr. Walter Bernard, of Londonderry, who was one of the oldest and most respected members of the medical profession in Ireland. Educated in Dublin, he became, in 1852, a Licentiate of the Rotunda Hospital, and in the same year a member of the Royal College of Surgeons of England. In 1858 he became a Licentiate, and in 1876 a Fellow of the King and Queen's College of Physicians (now the Royal) of Ireland. He served in the Crimean War, where he was chief surgeon in charge of the second and third divisions of the Army Works Corps, and received special commendation for his bravery in grappling with the terrible cholera epidemic which broke out in the British lines. In 1855 he was awarded the silver medal of the Royal Humane Society for saving the life of a member of the Army Works Corps who was carried away by a current while bathing in the Dardanelles, and who would have been lost had not Bernard swum after him. On returning home Bernard began practice in Londonderry, where he had a large *clientèle* and where he held several appointments. He was for many years visiting physician to Londonderry Lunatic Asylum and to the Londonderry Infirmary, while he was also consulting physician to the Hospital for Contagious Diseases and also to the Eye, Ear, and Throat Hospital in the same city. Mr. Bernard was a man of keen literary tastes, an antiquarian, and an admirable Shakesperean scholar, and often took a leading part in private theatricals in various Shakespeare's plays. He was a most entertaining companion, a keen archæologist, and a prolific writer, "Some Selected Jottings from My Notebook of the Thoughts of Other Men and my Own Experience while Passing Through Three and Four Generations" being very interesting reading. He contributed medical papers to the Royal Academy of Medicine, Ireland, to the Rome meeting (1894) of the International Medical Congress, and to your own columns.

Professor J. I. Lynham, of Galway.

The death of Dr. John Isaac Lynham, for over 30 years professor of the practice of medicine in University College, Galway, occurred last week, at the age of 62. After studying at Queen's College, Galway, he obtained the degree of the Queen's University in 1875. He was for many years bursar of the Queen's College, and a Fellow and examiner of the Royal University. Dr. Lynham was a man of retiring disposition, but was a painstaking teacher and a fair and conscientious examiner. He was respected and liked by his own students, many of whom, all over the world, will learn of his death with regret.

Dec. 10th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Cure of Leprosy in New Caledonia.

AT the last meeting of the Société de Pathologie Exotique M. Leboeuf reported the cases of three lepers, whose condition was recognised bacteriologically as well as by their presenting the manifest stigmata, in whom all the morbid phenomena that led to their segregation entirely disappeared. Two of the patients have been lost sight of; the third died without any recurrence. On the other hand, four patients were released from isolation on account of apparent cure in whom the disease returned after a greater or less time. Six other cases, however, which were reported to be clinically recognised as leprous, showed a remission so remarkable as to lead to hopes of cure. M. Jeanselme stated that the cure of leprosy, though exceptional, could not be denied. He had had an opportunity of making a post-mortem examination on a subject who for four years had been clinically free from all signs of the disease. Most of the organs were examined, but all that was found were certain vascular and interstitial lesions. Neither Hansen's bacilli nor Virchow's cellules were found.

A Charity Bazaar for the Medical Home.

The Medical Home, of which I have previously written, and which has rendered aid in many cases to our *confrères* unfortunate in their old age or from exceptional causes, finding itself in need of further funds, organised in the private apartments of the *doyen* of the Faculty of Medicine, at the Faculty itself, a charity bazaar, the greater part of the stalls being taken by the ladies of medical men. The results were highly satisfactory, benefiting the foundation by more than 30,000 francs, thus rendering possible the reception of two more inmates.

The Protection of Infants.

The protection of infant life has properly occupied medical attention lately, and has been the subject on many occasions of reports to the Academy of Medicine by departmental inspectors. M. Achard this year expressed a hope that the Academy of Medicine might receive more regular reports from the departmental inspectors on this service. Twenty of these reports are still lacking, but the situation is somewhat improved in this respect in comparison with preceding years. Most of the reports testify to the zeal of the medical inspectors and report a gradual diminution of breast-feeding. But the bringing up by the bottle has been brought to perfection, and gives in some departments very satisfactory results, thanks to the decrease of ignorance on the part of the wet nurses. Many memorials have been addressed to the Commission, testifying to important

movements in behalf of questions of infant hygiene. Two of these seem destined to extend to the colonies and protectorates the benefits of infant hygiene.

An Exhibition of Physical Education and Sport.

A special exhibition will be held at the International Congress on Physical Education, which will take place at Paris from March 17th to 26th, 1913, under the presidency of Professor Gilbert. This exhibition will be held on the premises of the Faculté de Médecine, in the École Pratique de Médecine, and in the Rue de l'École de Médecine, which will be completely enclosed and covered, so as to constitute a great hall sheltered from the weather. The exhibition will be divided into five principal classes. 1. A purely Scientific Section, in which will be displayed exhibits such as tracings, photographs, statistical charts, apparatus for measurement whereby the physiological data of sports are established, and physical exercises can be graduated according to the condition and temperament of the individuals. 2. An Art Section, displaying works of art, sculptures, paintings, engravings, inspired by sport. 3. A Historical Section, concerning various sports, showing how deeply rooted in the past are all physical exercises and games. 4. A Section of Societies of Sport, in which will be represented the various French and foreign societies, military and civil, and the sporting press, constituting a display of all contemporary sporting endeavour. 5. An Industrial Section, aiming to demonstrate the progress accomplished in the numerous industries concurring in the development and practice of sports and physical education. This section will comprise the following groups: Athletics and games, gymnastics, yachting, the dance, riding, shooting, hunting, fishing, cycling, automobiling, aviation, Alpine climbing, travelling, and the clothing, hygiene, and first aid outfits for sport. The exhibitors will have to become members of the Congress, and will enjoy thereby all the ordinary privileges of members, such as railway reductions, fêtes, and so forth. Their ladies and children likewise may be inscribed as associate members. Applications for membership must be addressed to the Director-General at the Bureau de l'Exposition, Faculté de Médecine, 21, Rue de l'École de Médecine,

The Academy of Medicine.

On Dec. 3rd the Academy of Medicine elected as an honorary member in the Section of Anatomy and Physiology, in place of the late Dr. Marc Sée, M. Delezenne, of the Institut Pasteur, by 65 votes out of 80.

Alcoholism in Morocco.

Unfortunately the consumption of alcohol, not content with its steady rise in civilised countries, particularly France, doubled itself in the year 1909–10 in Morocco. The public-houses spread with increasing rapidity. The Mahommedans, Jews, and women purchase their stock at the grocers and drink at home. One of the causes favouring the spread of alcoholism in Morocco is cheapness. Other merchandise, including mineral waters, the use of which is necessary in Morocco, pays an import duty of 12·50 francs per cent., while a litre of absinthe, of beetroot alcohol, or of artichoke alcohol pays only 7·50 francs per cent. A bottle of absinthe of a good brand costs 1·70 francs less in Morocco than in Paris. The Custom House statistics show that the importation of wine, which in 1909 was for the eight principal ports of Morocco 24,764 hectolitres, representing 577,366 francs, had risen in 1911 to 46,589 hectolitres (1,524,467 francs). In 1909 spirituous liquors and brandies figured in the import lists at 10,579 hectolitres (124,301 francs). In 1911 these same imports represented 13,396 hectolitres (153,388 francs). In 1910 4412 hectolitres of pure alcohol entered Morocco, representing 195,242 francs. In 1911 there were 7371 hectolitres, representing 294,672 francs. The importations of gin were 1892 hectolitres (83,380 francs) in 1910 and 2460 hectolitres (117,874 francs) in 1911. The importations of absinthe and of rum were 1981 hectolitres (129,490 francs) in 1910 and 3373 hectolitres (313,464 francs) in 1911. M. Remlingen has consequently asked whether the present scheme of taxation cannot be inverted, with added taxes on all distilled drinks. He also proposes the limitation, or at least the surveillance, of the public-houses.

Dec. 9th

NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

Management of the Johannesburg Hospital.

FOR some years past there has been constant friction at the Johannesburg Hospital, and there have been several inquiries, both public and departmental, into the affairs of the hospital. The last of these was a Departmental Commission appointed by the Administrator of the Transvaal to inquire into and report upon the general working of the administrative machinery of the hospital as affecting (*a*) the relations existing (1) between the committee of management and the honorary visiting medical staff, (2) between the committee of management and the medical superintendent, and (3) between the medical superintendent and the honorary visiting medical staff; (*b*) the discipline of the nursing and general staff; (*c*) the constitution of the committee of management—(1) whether the committee should be composed entirely of lay members, (2) whether their number should include medical men, (3) whether the medical members should have only deliberative and advisory powers, or (4) whether the medical members should have voting powers; (*d*) any alterations, additions, or cancellations of regulations defining the duties and the relations to each other of the different bodies and officers, with a view to ensuring efficient and harmonious working.

Contentions of the honorary medical staff.—The Commission met late in 1911 and has held sittings at intervals throughout the earlier months of the year, and its report has now been handed in. The medical staff raised certain contentions which may be summarised under the following heads:—(*a*) That as regards the financial administration of the hospital the system in force under which a committee of management not directly representative of the public or public institutions has power to deal with large sums of money in the administration of the hospital is inevitably wasteful. (*b*) That the principle is bad which admits of gentlemen, however highly qualified, continuing to sit year after year on a committee disposing of public funds and dealing with questions of public interest, without having to account for their actions to the public. (*c*) That the committee of management could not possibly administer such a technical institution as the hospital without having medical members amongst their number. (*d*) That the harmonious action between the committee of management and the medical committee which existed previous to the war and for a short time afterwards had disappeared, and that the committee of management as now constituted had taken up a hostile attitude towards the medical committee, in consequence whereof troubles had arisen, resulting in a profound distrust of the committee of management, as voiced in the lay press, and giving grounds for grave dissatisfaction on the part of the medical committee with the actions of the committee of management. (*e*) That the members of the committee of management are unable to recognise their own limitations, and are guilty of grave discourtesy towards the medical committee, who are excluded from all share in the active administration of the affairs of the hospital, and whose protests the commttee of management consistently disregard. (*f*) That the medical committee were rarely consulted even on matters entailing medical knowledge, and, when they were consulted, their recommendations were ignored. (*g*) That the attitude of the committee of management towards the medical superintendent was wanting in appreciation and support, and that his advice was frequently disregarded. (*h*) That any lack of discipline amongst the nursing staff of the hospital was due to the actions of the committee of management. The medical committee finally urged that the constitution of the committee of management should be altered, so as to include a proportion of medical men as members, who should have both deliberative or advisory and voting powers.

The Commission's findings.—In practically every instance the Commission has found the medical committee's allegations not proven, and, moreover, it expresses the opinion that the medical committee is itself to blame for much of the friction which has arisen, and that a great deal of trouble and possibly ill-feeling might have been avoided if the members of the medical committee had from the very beginning approached the committee of management and

frankly represented that they considered it essential that they should be given seats on the latter committee, either with or without voting powers. Instead, the Commission says that they brooded over their wrongs until these assumed exaggerated proportions. It thinks a great deal of the tension which has recently manifested itself in the relations between the two bodies is due to this unfortunate and unreasonable attitude. Knowing that the members of the visiting medical staff have individually and collectively, in season and out of season, taken every opportunity to impress upon the committee of management, the public, and the Government the necessity that has existed for medical representation, the latter conclusion of the Commission can only strike the medical profession as a whole with amazement; and when we turn to the recommendations of the Commission we find that the contentions of the staff, though repudiated in the report itself, are practically upheld throughout.

The Commission's recommendations.—These may be summarised briefly as follows:—

1. That the committee of the Johannesburg Hospital in future be styled "The General Committee of the Johannesburg Hospital," and consist of 15 members—namely, 12 nominated by the Administrator, and three medical members elected by the medical committee, one of whom shall be the chairman of that committee.

2. That the 12 lay members be appointed for a term of four years, and six of them retire in rotation at the end of every two years, the choice of the first six members to retire to be decided by lot; further, that members be eligible for re-election to the general committee after an intervening period of four years from the date of their retirement.

3. That the term of office for the medical members be two years, retiring members to be eligible for re-election by the medical committee; and that they be given both deliberative and voting powers on the general committee.

4. That the quorum of the general committee consist of seven members.

5. That temporary vacancies in the general committee be filled, as to laymen, by coöption by the remaining lay members of the committee, and, as to the medical members, by the medical committee.

6. That the right of access to the minutes of the general committee be available to members of the committee at all reasonable times, and be accorded to other persons only by resolution of the general committee.

7. That any member of the general committee who shall absent himself from three consecutive ordinary meetings of the committee without leave having been obtained shall *ipso facto* cease to be a member, and that information in regard to the vacancy be given forthwith by the chairman to the Administrator.

8. That standing committees be appointed annually to deal with (*a*) finance and general purposes and (*b*) internal administration; that each of these committees consist of five members (not including the *ex officio* member), and have power to elect a chairman; that the medical members be eligible to act on those committees; and that three members form a quorum.

9. That, save in cases of extreme urgency, all matters be first dealt with by the standing committees, and that the appointment of special subcommittees of inquiry be avoided.

10. That the chairman of the general committee be *ex officio* a member of every standing committee or subcommittee.

11. That a deputy superintendent of the hospital be appointed at a salary and on conditions of service to be fixed by the Administrator. This officer to be subordinate to the medical superintendent and to have such duties allocated to him as the medical superintendent may determine, subject to the approval of the general committee, the superintendent to be at all times held generally responsible.

12. That the medical superintendent remains secretary to the general committee and an *ex officio* member of the medical committee.

13. That in the promotion of nurses and sisters the opinion of the medical committee be taken into serious consideration and acted upon, unless strong grounds to the contrary are shown.

14. That an election committee should be established consisting of six members, namely three lay members (one of whom shall be the chairman) and three medical members.

15. That members of the senior honorary visiting staff be appointed for five years, and be eligible for reappointment at the discretion of the election committee for a second and third term of similar duration.

16. That the senior honorary visiting staff be composed of such medical men as are in charge of white beds in the hospital in the approximate ratio of one medical man to every 30 European beds.

17. That the extra honorary visiting staff consist of such medical men as are not on the senior honorary visiting staff and act as consultants to the out-patients' department or are responsible for the free kaffir wards; that they act as locum tenens to the senior staff; and that they be appointed for five years, being elected in the first instance by the election committee and subject to re-election by the general committee.

18. That the medical committee deal with all matters of medical interest as they arise, and furnish the general committee with regular reports on matters relating to the conduct and growth of the institution.

19. That, subject to the sanction of the Administrator, a member of the honorary visiting staff may be removed from office by the vote of a majority of the general committee taken at a meeting at which not less than two-thirds of the members are present.

Hope for final settlement.—There is reason to hope that the reorganisation of the hospital will follow broadly the lines recommended by the Commission, and that such reorganisation will close an unsatisfactory and unsettled chapter in the history of the largest and most important institution of its kind in South Africa. If so, the agitation which has been continuously carried on by the profession in the Transvaal will not have been in vain.

Pretoria District Surgeoncy.

A few weeks ago the Civil Service Commission advertised for applications for the position of district surgeon of Pretoria, one of the most important public medical appointments in the Transvaal, offering only £600 a year, and requesting candidates to forward any certificates they might possess of proficiency in the Dutch language. The Transvaal Medical Council appear to have approached the Government on the matter, pointing out firstly the salary offered was far too low for any man of standing to accept, and secondly that the certification of a medical man in the Dutch language should not be the outstanding qualification demanded for a professional post. An amended advertisement has now appeared in the gazette. In this amended notice the salary is raised to £800 per annum, while the clause inviting copies of examinations passed in Dutch is wholly withdrawn. Moreover, while in the first advertisement it was only stated that a good knowledge of Dutch was essential, in the amended notice it is stated that a good knowledge of English as well as of Dutch is essential. And so the law imposing bilingualism on all candidates for posts in the public service is satisfied.

Nov. 8th.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

Conference on Mental Hygiene.

AT the Mental Hygiene Conference, recently held in New York under the presidency of Professor Lewellys Barker, of Johns Hopkins University, eugenic principles came in for discussion. Dr. Rosanoff, of King's Park State Hospital, said that eugenics had a positive side and a negative side. On the positive side their study aimed at the preservation and cultivation of useful and beautiful human traits; on the negative side at the prevention of harmful and repulsive traits. The negative side had the more distinct bearing on the problem of the prevention of insanity and allied conditions. Dr. Rosanoff considered it questionable if the time had yet come when active eugenic measures could be safely undertaken. The problem was greatly complicated by the fact that in any individual we had to deal, not with a single trait, but with a most bewildering combination of traits, good, bad, and indifferent. Even frank insanity might coexist with the highest qualities of human genius, and although we did not desire to perpetuate insanity, we surely did wish genius to be preserved. Another matter dealt with was the menace of the alien insane. Mr. William Williams, Commissioner for Immigration for New York State, said the fact that mentally defective immigrants might become public charges was one of the least important considerations. But it was of vital importance that such persons contributed largely to the criminal classes and might leave feeble-minded descendants, thus starting vicious strains for the future. More adequate and closer inspection of immigrants, he said, depended on the provision of sufficient competent inspectors, and this rested with the Federal Government. Many immigrants were now permitted to slip through owing to inadequate inspection. Dr. M. S. Gregory, of Bellevue Hospital, asserted that 12,000 patients, including insane, neurotics and alcoholics, fit subjects for mental treatment and often for insane asylums, were discharged from Bellevue Hospital every year. Nearly all might be saved from hopeless ends if looked after by trained visitors and social workers on leaving the hospital. The Conference, an instructive session, closed with a paper by Dr. Stewart Paton concerning the relations between psychiatry and educational methods, in which he urged the establishment of clinics in psychiatry.

Munificent Gift to New York Hospital.

Mr. George F. Baker, President of the First National Bank of New York and a governor of the New York Hospital, has given a large sum of money to bring about an alliance between the New York Hospital and Cornell Medical School,

in order that the medical students shall be afforded ample opportunities for practical as well as theoretical training.

Dr. Alexis Carrel Honoured.

On Nov. 16th Dr. Alexis Carrel, of the Rockefeller Institute, who was recently awarded the Nobel prize, was publicly honoured by President Taft on behalf of the United States, and by Mr. Mitchell, president of the Board of Aldermen of New York City, in the great hall of the City College, New York. Monsieur Jusserand, the French Ambassador, delivered an address in which he placed Dr. Carrel on a plane with Lavoisier, who demonstrated the nature of breathing, and with Pasteur, "whose discoveries advanced medicine more in ten years than it had gone in the previous thousand." There were 4000 present at the meeting.

Army Medical School Building.

The Surgeon-General of the United States Army has submitted an estimate of $350,000 for the construction of buildings for the use of the United States Army Medical School, which at present rents its premises.

Dec. 2nd.

Obituary.

EDWARD ALFRED BIRCH, M.D. BRUX., F.R.C.P. LOND.,

LIEUTENANT-COLONEL, INDIAN MEDICAL SERVICE.

THE death was announced in our Service columns last week of Lieutenant-Colonel Edward Alfred Birch, which took place in London on Nov. 27th at the age of 72. He was the son of the late Mr. William Birch, J.P., of The Hills, Roscrea, Tipperary, and joined the Indian Medical Service in 1866 after serving a short time as a surgeon in the Royal Navy, during which he was present at the actions of Kagosima and Simonoseki, being mentioned in despatches. He served as civil surgeon in various districts in Bengal, and at the beginning of 1885 was appointed surgeon superintendent of the Presidency General Hospital, Calcutta. Five years later he was selected to be principal and professor of medicine at the Medical College of that city. He gained distinction, not only as an administrative officer, but as a physician, and enjoyed a very extensive practice. He was known all over India as the author of "The Management of Children in India," based on a similar but smaller work by Goodeve, repeated editions of which were edited by him. This work, which was popularly known as the "Mother's Bible," did immense service in the saving of infantile life in India, particularly among Europeans, and a copy was to be found in nearly every household. Besides his other duties Lieutenant-Colonel Birch was appointed officiating inspector-general of hospitals in Bengal in 1892, and he retired a year later on account of the state of his health, which had begun to fail from rheumatoid arthritis. This was a great disappointment to him and a loss to the department, for he was marked for further advancement.

About 11 years ago he settled down in Okehampton and engaged in local politics, being a strong Conservative. Early this year indications of a serious internal malady declared themselves, attended with great suffering, which he bore with unflinching courage to the end. He was altogether a man of outstanding character, marked ability, and great determination. He was a firm and staunch friend and was ever ready to champion the cause of those whom he considered were the victims of injustice. His sense of duty and rectitude were very high and he was fearless in exposing wrongs.

Lieutenant-Colonel Birch married Caroline Thomasine, daughter of Mr. John Massy, of Stagdale, co. Limerick. She survives him with two daughters, one of whom is the wife of Mr. F. J. Wilson, C.I.E., late chief engineer to the Madras Government, and two sons—Major Edward Massy Birch, D.S.O., R.A., and Mr. Hugh Massy Birch, of the Public Works Department, British East Africa.

G. CHRISTOPHER TAYLER, M.D. LOND., L.R.C.P. LOND., M.R.C.S. ENG.

Dr. G. C. Tayler, who died at his residence, Trowbridge, Wilts., on Nov. 23rd, after a very short illness, in his sixty-eighth year, received his medical education at St. Bartholomew's Hospital, and in 1866 graduated as M.B. at London University and qualified also as L.R.C.P. and M.R.C.S. In 1871 he proceeded to the M.D. degree. Dr. Tayler was one of the oldest and most highly esteemed medical practitioners of Trowbridge and the district. He was formerly medical officer of health for Trowbridge and district medical officer of the Westbury (Wilts.) union. He was an active Freemason, and took a great interest in the local volunteers, from which force he retired some time ago with the rank of surgeon-lieutenant-colonel. He was a staunch churchman, and for over 30 years was churchwarden at St. Thomas's Church, Trowbridge. He will be much missed in Trowbridge and the neighbourhood, where he had practised for many years, for his kindness and unostentatious charity made him respected by all.

SAMUEL WILLIAM ROBINSON, B.A., M.D., B.CH. DUB.

Dr. Samuel William Robinson died on Sept. 18th after a short illness at his home in Monte Caseros, Argentine Republic. He graduated in medicine at Trinity College, Dublin, in 1887, and proceeded to the M.D. degree in 1891. After a few months in England, he went out to South America, where he held various important medical appointments and practised until his death.

Dr. Robinson was a real philanthropist and beloved of all with whom he came in contact. He founded the town Charity Hospital and did much valuable work there for both in-patients and out-patients. As a mark of respect the townspeople of Monte Caseros have got together a large sum of money to extend and modernise the hospital, and have given the new and enlarged institution the name of "The Robinson Hospital." His loss is keenly felt by all who knew him, and every man, woman, and child in the town who was free on the day of his funeral, followed his coffin to the grave.

Dr. Robinson contributed several interesting papers to THE LANCET, including one in 1897 on "Death of Fœtus in Utero from Gunshot Wound," and he was always an original observer. During his last three years' work he took up enthusiastically the tuberculin treatment for leprosy, and was much encouraged by the results obtained.

LITERARY INTELLIGENCE.—The syndics of the Cambridge University Press have decided to publish a series of volumes dealing with the various subjects connected with public health. The following is the provisional list of subjects: (*a*) The causation of tuberculosis, biting flies and disease, house flies and disease, ticks and disease, serum diagnoses, the bacteriology of foods, methods of post-mortem examinations, and tropical hygiene; (*b*) sewage disposal, water purification, school hygiene, physical education, ventilation, soils, subsoils, and climate relation to health, fever hospital administration, sanitary law and practice, sound and unsound foods, domestic sanitation, offensive and noxious trades, and chemical analyses of foods. The series will be under the general editorship of Dr. G. S. Graham-Smith, University lecturer in hygiene; and Mr. J. E. Purvis, M.A., University lecturer in chemistry and physics in their application to hygiene and preventive medicine. The volumes will contain from 250 to 350 pages and vary in price from 5*s.* to 10*s.* 6*d.* net.—Messrs. J. and A. Churchill announce the following new works and new editions for early publication: A History of Chemistry: From the Earliest Times till the Present Day. By the late James Campbell Brown, D.Sc. Lond., LL.D. Aberd., professor of chemistry at Liverpool University. Notes on Chemical Research. By W. P. Dreaper, F.I.C., F.C.S. This is the first of a projected series of text-books of chemical research and engineering. A Text-book of Anatomy for Nurses. By Elizabeth R. Bundy, M.D. Second edition. Who's Who in Science (International), 1913. Edited by H. H. Stephenson. This work of reference contains biographies of many of the leading workers in the following sciences: Agriculture, anatomy, anthropology, astronomy, bacteriology, botany, chemistry, engineering, forestry, geography, geology, mathematics, medicine, meteorology, mineralogy, pathology, pharmacology, physics, physiology, psychology, surgery, zoology; including also a comprehensive list of the world's universities, a classified index, and a list of the scientific societies throughout the world. 500 pages; much enlarged.

THE NATIONAL INSURANCE ACT.

As we announced last week, we received, but too late for publication, four circulars from the National Insurance Commission. They are addressed to the Insurance Committees, and consist of: (1) The Suggestions of the Commissioners as to the Administration of Medical Benefit; (2) and (3) Model Agreements, (A) upon Capitation Payment, and (B) upon Payments by Attendance, between the Practitioner and the Insurance Committee; and (4) Model Letter of Invitation from an Insurance Committee to the Practitioners in the Area:—

ADMINISTRATION OF MEDICAL BENEFIT.

1. The object of this Memorandum is to summarise the result of the discussions at the recent conferences with the chairmen and clerks of Insurance Committees, and to indicate the practical steps which the Commissioners suggest should be taken by Insurance Committees, with the object of bringing into operation by the 15th January next the provisions of the National Insurance Act relating to medical benefit.

2. The Regulations as to the administration of medical benefit have been modified, and copies of the revised Regulations are enclosed herewith. Suggested forms of agreement with medical practitioners and other documents relating to medical benefit are also enclosed.

3. The Commissioners' suggestions with regard to agreements between Committees and Approved Societies as to the sums to be paid by the latter for the cost of medical benefit and of its administration are dealt with in a separate letter which has already been issued.

4. With regard to the arrangements with medical practitioners and the general administrative machinery of medical benefit, it was agreed at the conferences above referred to that, at the outset, in view of the difficulty of obtaining an accurate register of insured persons in sufficient time, some provisional arrangements would be necessary. Such provisional arrangements, it was pointed out, could be brought into operation without prejudice to the character of any permanent arrangements which might be decided upon by Committees as the result of further negotiations or consideration, and could remain in force for a limited period, subject to extension in the event of the Committee not being in a position to establish their permanent arrangements at the close of the first period.

PROVISIONAL ADMINISTRATIVE MACHINERY.

Medical Tickets.

5. It appears to the Commissioners unsafe to assume that the Index Register now in course of compilation will, as a rule, be sufficiently complete or accurate by Jan. 15th next to enable Committees to rely upon it, either for the purpose of making provision for persons entitled to medical benefit, or for verifying the title of applicants for the benefit. The Commissioners have therefore arranged for the issue to persons entitled to benefit of a voucher, or medical ticket (specimens of which are enclosed herewith), having a currency to April 30th next. These tickets will be distributed to the members of societies through the societies themselves, and to deposit contributors by the Commission direct; and by Jan. 15th every person entitled to medical benefit should be in possession of one of these tickets.

Leaflets.

6. With this ticket, every person entitled to medical benefit will receive a leaflet (specimens of which are also enclosed) explaining briefly the object of the ticket, and the steps to be taken by him to obtain information as to the arrangements in force in his locality for the provision of the benefit. The effect of this leaflet, as will be seen, is to direct the insured person who requires any information which he cannot obtain from the local branch or official of his Approved Society, either to a notice to be exhibited in the Post Office nearest to his address, or to the nearest officer of Customs and Excise, the Commissioners having been enabled, by the courtesy of the Postmaster-General and the Board of Customs and Excise, to secure the coöperation of their respective departments in the manner indicated. The arrangements made by the Committee must therefore be such as will enable them to prepare these notices before Jan. 15th next.

Procedure.

7. In view of the limited time available it is obvious that machinery must be devised to ensure that the necessary negotiations with doctors and chemists will not be protracted and that the procedure generally should be as simple and expeditious as possible.

8. *Valuable time will be saved if the procedure indicated below is followed. Further, if the Insurance Committee agree to adopt the model forms and agreements enclosed herewith it will not be necessary for them to submit their proposed arrangements to the Commissioners for formal approval before putting them into operation.*

ARRANGEMENTS WITH MEDICAL PRACTITIONERS.

9. The procedure proposed is as follows. On or about the 12th instant the Committee should issue to each practitioner upon the Medical Register practising in their area a circular letter of invitation in the form enclosed with this Memorandum, accompanied by the alternative forms of agreement also enclosed. This communication should be in the hands of each practitioner in the area on or about the 14th instant. Simultaneously with the issue of this invitation a press announcement should be made calling attention thereto and inviting persons interested to apply for copies.

10. In order to assist Committees, the Insurance Commissioners have arranged to supply each Committee with a list, complete in so far as the Commissioners are able to ascertain, of the qualified medical practitioners resident in their area. The Commissioners will also furnish Committees with a sufficient supply of copies of the circular letter of invitation and alternative agreements, for dispatch to the medical practitioners in each Committee area, together with a supply of envelopes bearing the printed address of the clerk to each Committee. The letters of invitation will require the signature of the clerk to the Committee.

11. That letter of invitation, it will be noticed, fixes Dec. 31st as the latest date for the acceptance by practitioners of the Committee's offer, allowing a period of two and a half weeks for consideration. It also invites practitioners to confer with the Committees during that period either in person or through any organisation by which they may desire to be represented, with a view to negotiation upon such matters as are not by the nature of the Committee's provisional arrangements outside the range of negotiation.

CONDITIONS OF SERVICE.

12. The conditions of service upon which practitioners should be invited to undertake the treatment of insured persons are set out in the forms of agreement, and it will be unnecessary for the Committee to consider this subject before issuing their invitations to the practitioners.

REMUNERATION.

13. The amount available for remuneration, upon which the Committee's offer should be based, is, as stated in the circular letter of invitation:—

(*a*) A sum of 6*s*. 6*d*. per head per annum in respect of every insured person entitled to obtain medical attendance from a practitioner on the panel.

(*b*) In every year in which the total amount required for the provision of drugs and appliances is less than 2*s*. per head of insured persons entitled to obtain medical attendance from practitioners on the panel, a sum representing the amount unexpended in this respect up to a total of and not exceeding 6*d*. per head.

(*c*) A sum equal to 6*d*. per annum per head of all insured persons entitled to obtain medical attendance from practitioners on the panel in respect of the domiciliary treatment of insured persons suffering from tuberculosis;

—the total fund consisting of the aggregate of these sums to be distributed among practitioners on the panel in accordance with the method of remuneration adopted in the area.

Alternative Methods of Remuneration.

14. It will be seen that alternative methods of medical remuneration are suggested in the letter of invitation. In view of the limited time available no arrangements which involve the allocation of insured persons to the care of individual practitioners prior to Jan. 15th next can be relied upon to be complete by that date. Hence, it is essential that, whatever arrangements are adopted, they should be such as will afford reasonable certainty that every insured person entitled to medical benefit will obtain treatment from any doctor on the panel to whom he presents his medical ticket; and for the provisional period the method of remuneration adopted must be framed with this object in view. On the basis of payment by attendance this necessary condition is secured. The capitation basis, however, involves certain difficulties in this connexion; but in an area in which a capitation system is on other grounds preferred, it would be possible for the Committee to overcome these difficulties by undertaking, in consideration of practitioners agreeing to place on their lists all who apply to them, to assign to each practitioner the residue of insured persons who make no application in proportion to the number of persons who have already been accepted by him. For the provisional period, therefore, it will probably be found essential that the method of remuneration offered should be either on the basis of payment by attendance or on a capitation basis modified in accordance with the foregoing suggestions, so as to secure that any insured person falling ill before he has been entered on the list of a medical practitioner may obtain treatment.

15. The method of remuneration to be adopted in any Committee area is a question which the Committee should not attempt to decide until they have ascertained the views of the medical practitioners. It is very desirable that, if possible, the Committee should agree to adopt the method which is found to be acceptable to the majority of those medical practitioners in their area who indicate willingness to act on the panel.

It will, of course, be understood that the method of remuneration adopted for the provisional period need not necessarily be continued after the expiry of that period, and that if either the Committee or the practitioners so desire negotiations as to the permanent method can be set on foot at any time which permits of their completion before the end of the provisional period.

NEGOTIATIONS WITH MEDICAL PRACTITIONERS.

16. In any area in which a Local Medical Committee has not been formed, or if formed has not yet been formally recognised, it appears to the Commissioners that the Insurance Committee might properly enter into negotiations with any Committee to whom the practitioners have delegated this duty. The Insurance Committee should, of course, also give weight to the views of individual practitioners who prefer not to be represented by any Committee; but it will obviously be more convenient if negotiations can be conducted with a Committee which is representative of the majority of practitioners who contemplate accepting the Insurance Committee's invitation.

ARRANGEMENTS FOR THE SUPPLY OF DRUGS AND APPLIANCES.

17. Insurance Committees are required by the Regulations to determine the conditions upon which it is proposed to invite chemists and other persons to undertake the supply of drugs and appliances. The Commissioners have prepared a Model Form of Notice to persons desirous of undertaking the supply of drugs and appliances, and also a Form of Acceptance and Agreement. If the Committee adopt the Model Forms, no further approval by the Commissioners will be required in respect of them.

18. Insurance Committees are also required to prepare a list of the prices on the basis of which payments are to be made for the drugs ordinarily supplied to insured persons and for the prescribed appliances. On this point the Insurance Committee should at once consult any Committee which may have been formed in the county or county borough representing persons supplying drugs and appliances. It will probably be found that the local pharmaceutical committee will be prepared with a list of drugs and prices which might form the basis of negotiations. It will, however, be apparent that the tariff adopted will be a matter in which the medical practitioners have an interest as well as the pharmacists and the Insurance Committee, and the list of drugs and prices should therefore be a matter for negotiation between the three parties mentioned.

DEPOSIT CONTRIBUTORS.

19. With regard to the charges for the medical benefit of deposit contributors, the Commissioners consider that these should be the same as those payable in respect of members of Approved Societies, and that accordingly a sum of 6s. should be fixed under Section 42 (*d*) of the Act as the amount payable in respect of each deposit contributor for the purposes of the cost of medical benefit out of his contributions. The cost of the administration of medical benefit for deposit contributors is included in the sum to be prescribed by the Commissioners for administration of benefits for that class of insured persons under Section 42 (*e*) of the Act, and the Commissioners propose to prescribe 1s. 9d. under this head.

PERSONS REFERRED TO IN SECTION 15 (2) (*e*) OF THE ACT.

20. The provisional agreement with the doctors should include an agreement to take persons mentioned in Section 15 (2) (*e*) of the Act on the same terms of remuneration as insured persons as provided in the Regulations, which are incorporated in the terms of agreement.

PUBLICATION OF LISTS OF PRACTITIONERS AND CHEMISTS.

21. Immediately upon the conclusion of the negotiations (which should be brought to a close at the earliest possible date) the Committee should re-issue to all practitioners the form of agreement adopted in its final shape as settled, in respect of those points awaiting decision, in consequence of the negotiations. As suggested above, Dec. 31st should be fixed as the date before which the acceptances should be received, and the lists first to be issued should be closed on that date. Practitioners will not, of course, be precluded from coming on the panel at a later date, but they would not be entitled to have their names placed on the first lists issued.

22. By Jan. 1st the agreements, executed by way of acceptance, will have been received from those practitioners who desire to enter into contract with the Committee; and every Insurance Committee must on or before Jan. 1st report to the Commissioners the steps which they have adopted and the result of their negotiations with medical practitioners and with persons supplying drugs and appliances. Where the number of doctors, and the number of chemists who have been accepted is adequate, the Commissioners will at once signify their approval of the lists.

23. As soon as the lists are approved they must be printed, together with instructions to insured persons, and given to the local branches and officers of Approved Societies for distribution among insured persons, and at the same time to the local post offices and to the local officers of Customs and Excise. The Commissioners will in due course supply each Committee with a list of the post offices in their area, and other information with regard to the procedure in this connexion.

INCOME LIMIT.

24. The Committee are required to inform the Commission whether they propose to fix an income limit above which insured persons will be required to make their own arrangements for medical attendance and treatment, and to furnish particulars of any income limit proposed to be fixed.

APPROVAL OF INSTITUTIONS UNDER SECTION 15 (4).

25. The Committee have already received copies of a Model Form on which systems or institutions may apply for approval under Section 15 (4), and such applications should be forwarded to the Commission so soon as a decision is reached by the Committee. A Model Form of Notice of selection of an approved institution will be furnished later.

PERSONS REQUIRED OR ALLOWED TO MAKE THEIR OWN ARRANGEMENTS.

26. Model Forms of Notice by and to persons required or allowed to make their own arrangements for medical attendance and treatment will also be furnished.

TIME TABLE.

27. It will be seen that if the Insurance Committee proceed on the lines above suggested, the various stages will have to be completed on or before the dates mentioned in the following time table:—

Date of this circular letter	Dec. 6th.
Receipt of invitation, &c., by practitioners and by persons supplying drugs and appliances	Dec. 14th.
A period of two and a half weeks for negotiation, concluding with the date fixed as the last day for receipt of acceptances—viz.:	Dec. 31st.
Report by Committees to Commissioners	Jan. 1st.
Leaving an interval of two weeks for the printing and supply to local offices of societies, to post offices, and to officers of Customs and Excise of the lists of practitioners and pharmacists and the necessary notices to insured persons	Jan. 15th.

National Health Insurance Commission (England)
Buckingham Gate, London, S.W.
December, 1912.

AGREEMENT BETWEEN MEDICAL PRACTITIONER AND INSURANCE COMMITTEE FOR THE PERIOD ENDING APRIL 14TH, 1913.

A. PAYMENT BY CAPITATION.

To the ..... INSURANCE COMMITTEE.

.....

of .....

(hereinafter called the "Practitioner") hereby agrees to undertake the medical attendance and treatment of insured persons upon the terms and conditions mentioned below, and desires his name to be included in the medical list under the headings of the following areas:—

TERMS AND CONDITIONS OF SERVICE.

1. The National Insurance Act, 1911, and the National Health Insurance (Administration of Medical Benefit) Regulations, 1912 (hereinafter called "the Regulations") or other Regulations for the administration of medical benefit made by the Commissioners and in force for the time being in the area of the said Insurance Committee (hereafter called "the Committee") are incorporated with and form part of these conditions of service, and this agreement shall cease to have effect in the event of the Commissioners exercising any of the powers conferred on them by the proviso to subsection (2) of Section 15 of the said Act.

2. The practitioner shall give to all persons who are for the time being entitled to obtain treatment from him (all or any of whom are hereinafter referred to as the "patients" or "patient" as the case may be) such treatment as is of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill: Provided that the practitioner shall not by virtue of this agreement be required to give, nor entitled under this agreement to make any charge for treatment to any person in respect of a confinement—that is to say, labour resulting in the issue of a living child, or labour after 28 weeks of pregnancy resulting in the issue of a child whether alive or dead.

3. The persons entitled to obtain treatment from the practitioner under this agreement are those persons who have applied to and been accepted by him under the provisions of the Regulations and such other persons as have been assigned to him under those provisions.*

Provided that the Committee shall not assign any person to any practitioner resident more than ..... miles from the residence of that person if any other practitioner on the panel resides at a less distance from that residence, except with the consent of the first-mentioned practitioner.

4. Where the condition of the patient is such as to require services beyond the competence of an ordinary practitioner, the practitioner shall advise the patient as to the steps which should be taken in order to obtain such treatment as his condition may require.

5. The practitioner shall visit at the place of residence for the time being of the patient, or at any other place within the county within a distance of ..... miles by road from the residence of the practitioner where the patient may be for the time being any patient whose condition so requires.

6. The practitioner shall attend and treat at the places, on the days and at the hours mentioned in the First Schedule hereto, any patient who attends there for that purpose: Provided that if at any time the practitioner decides to alter the places, days or hours of his attendance, or any of them, he shall give not less than seven days' notice in writing to the Committee and to each of the insured persons for the time being entitled to obtain treatment from him.

7. The practitioner shall keep simple records of the diseases of the patients attended by him and of his treatment of them in the form set out in the Second Schedule† hereto, and such further records as may at any time hereafter be agreed between the Committee and the Local Medical Committee, and shall, at the request of any patient, furnish such certificates as are required to be furnished by that person in connexion with any claim for sickness or disablement benefit made by him in pursuance of the rules of the society of which he is a member, or of the Committee as the case may be, and the services rendered by the practitioner shall be of such a kind as to comply with the conditions set out in the Third Schedule hereto (or any such modifications of those conditions as do not impose an additional burden on the practitioner) being conditions respecting the nature and quality of treatment which must be complied with by reason of any scheme for the distribution of a Parliamentary grant.

8. The practitioner shall immediately after April 14th, 1913, and the expiration of such subsequent periods as may be agreed, furnish an account on the form provided for the purpose by the Committee.

9. All treatment shall be given by the practitioner personally, except where he is prevented from so doing by urgency of other professional duties, absence from home, or other reasonable cause, and the practitioner will to the best of his ability provide that when he is so precluded from personal attendance some other practitioner will give attendance as his deputy on his behalf: Provided that where treatment is given by a deputy, the deputy shall be entitled to treat patients at places other than those mentioned in the First Schedule hereto.

10. The remuneration of the practitioner for the treatment of patients during the period ending April 14th, 1913, shall be calculated in accordance with the Regulations on the basis of the rate contained in the Fourth Schedule hereto, and thereafter as may be agreed.

11. The practitioner shall order in the form provided by the Committee for the purpose such drugs and prescribed appliances as are requisite for the treatment of any patient other than those which the practitioner may under this agreement or any agreement hereafter to be made with the Committee himself supply: Provided that if the practitioner orders any drug not included in the list from time to time supplied to him by the Committee he shall give such order on a special form provided by the Committee for that purpose.

12. (i.) The practitioner shall himself supply to a patient where requisite drugs which are necessarily or ordinarily administered by a practitioner in person, and drugs and appliances required for immediate administration or application, or required for use before a supply can conveniently be obtained otherwise under the Regulations.

(ii.) The practitioner shall furnish, together with the accounts for treatment above-mentioned, accounts for the drugs and appliances so supplied by him, and payment shall be made therefor at the same rate as that agreed to be paid by the Committee to chemists and other persons supplying drugs and appliances.

13. This agreement shall continue in force and have effect until the 14th April, 1913, or such later date as may hereafter be agreed.

14. Except where the context otherwise requires, words and expressions used herein shall have the same meaning as in the Regulations.

Signature of Practitioner ‡.....
Qualifications .....
Date .....

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* NOTE.—The Regulations require that persons assigned to practitioners by the Committee should be so assigned "so far as practicable under arrangements made by practitioners on the panel."

† This Schedule is published under B. Scheme.

‡ This agreement should be signed by the practitioner over a sixpenny stamp.

THE THIRD SCHEDULE.

The conditions of any grant to any Insurance Committee will require that records shall be kept of the diseases of the insured persons in the area and of their treatment in such form as is required by the Commissioners,* and that such certificates shall be furnished to every insured person as are required to be furnished by that person in connexion with any claim for sickness or disablement benefit made by him in pursuance of the rules of the society of which he is a member

THE FIRST SCHEDULE.

PLACES OF ATTENDANCE. DAYS AND HOURS OF ATTENDANCE AT EACH PLACE.

THE SECOND SCHEDULE.

A

Particulars of Patient.		Month of ..... 1913.																													Account for month of ..... 1913.[1]												Month of ..... 1913.			
Name and address.	Society and Number.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	a.	v.	sv.	nv.	op.	an.	fr.	ds.	Total No. of a & v.	Age and sex.	Occupation.	Nature of illness to be entered on conclusion of treatment, or reference to re-entry.
Name	Society																																								Age.			
Address	Number																																								Sex.			

A

TABLE OF SYMBOLS.

a. Surgery attendance. *v.* visit. *sv.* Special visit. *nv.* Night Visit. *op.* Operation, or case of Abortion or Miscarriage. *an.* Anæsthetic. *fr.* Fracture. *ds.* Dislocation.

The Practitioner should enter the appropriate symbol under the date on which the service was rendered, and total the various services under the heads shown in the column of Account, entering also the other particulars for which the spaces in the form provide.

These forms, made up in books of large double foolscap size, form the Practitioner's Day-book; a perforated line along A enables the Practitioner to tear off the anonymous summary for the Commissioners.

[1] Under the A Scheme, for payment by capitation, the table analysing attendances for the month is, of course, omitted.

or of the Committee as the case may be, and that the general arrangements made by the Committee shall be such as to secure to insured persons a standard of treatment satisfactory to the Commissioners, and that the domiciliary treatment of insured persons recommended for sanatorium benefit shall be undertaken by the practitioners by whom they are attended, and that for that purpose those practitioners shall receive remuneration out of a fund equivalent to a sum of 6*d.* per annum in respect of each person entitled to receive treatment from them.

* NOTE.—The form is that set out in the Second Schedule to this agreement.

THE FOURTH SCHEDULE.

SCALE FOR CALCULATING REMUNERATION.

The rate upon which remuneration shall be calculated shall be a rate of.....a quarter, that is to say, the period ending on April 14th, 1913, and such corresponding rates for other periods as may be subsequently agreed, in respect of each person included in the list of the practitioner, the number of those persons to be ascertained in respect of the quarter ending April 14th, 1913, by taking the number of persons included at the close of that quarter, and in respect of any subsequent quarter as may be hereafter agreed.

AGREEMENT BETWEEN MEDICAL PRACTITIONER AND INSURANCE COMMITTEE FOR THE PERIOD ENDING APRIL 14TH, 1913.

B. PAYMENT BY ATTENDANCE.

To the ..... INSURANCE COMMITTEE.

.....

of .....

(hereinafter called the "Practitioner") hereby agrees to undertake the medical attendance and treatment of insured persons upon the terms and conditions mentioned below and desires his name to be included in the medical list under the headings of the appropriate areas:—

TERMS AND CONDITIONS OF SERVICE.

1. The National Insurance Act, 1911, and the National Health Insurance (Administration of Medical Benefit) Regulations, 1912 (hereinafter called "the Regulations") or other Regulations for the administration of Medical Benefit made by the Commissioners and in force for the time being in the area of the said Insurance Committee (hereinafter called "the Committee") are incorporated with and form part of these conditions of service, and this agreement shall cease to have effect in the event of the Commissioners exercising any of the powers conferred on them by the proviso to subsection (2) of Section 15 of the said Act.

2. The practitioner shall give to all persons who are for the time being entitled to obtain treatment from him (all or any of whom are hereinafter referred to as the "patients" or "patient" as the case may be) such treatment as is of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill: Provided that the practitioner shall not by virtue of this agreement be required to give, nor entitled under this agreement to make any charge for treatment to any person in respect of a confinement, that is to say, labour resulting in the issue of a living child, or labour after 28 weeks of pregnancy resulting in the issue of a child whether alive or dead.

3. The persons entitled to obtain treatment from the practitioner under this agreement are those persons who have applied to and been accepted by him under the provisions of the Regulations and such other persons as have been assigned to him under those provisions:*

Provided that the Committee shall not assign any person to any practitioner resident more than.....miles from the residence of that person if any other practitioner on the panel resides at a less distance from that residence, except with the consent of the first-mentioned practitioner.

4. Where the condition of the patient is such as to require services beyond the competence of an ordinary practitioner, the practitioner shall advise the patient as to the steps which should taken in order to obtain such treatment as his condition may require.

5. The practitioner shall visit at the place of residence for the time being of the patient, or at any other place within the county within a distance of.....miles by road from the residence of the practitioner where the patient may be for the time being, any patient whose condition so requires.

6. The practitioner shall attend and treat at the places, on the days and at the hours mentioned in the First Schedule hereto, any patient who attends there for that purpose: Provided that if at any time the practitioner decides to alter the places, days or hours of his attendance, or any of them, he shall give not less than seven days' notice in writing to the Committee and to each of the insured persons for the time being entitled to obtain treatment from him.

7. The practitioner shall keep simple records of the diseases of the patients attended by him and of his treatment of them in the form set out in the Second Schedule hereto, and such further records as may at any time hereafter be agreed between the Committee and the Local Medical Committee, and shall, at the request of any patient, furnish such certificates as are required to be furnished by that person in connexion with any claim for sickness or disablement benefit made by him in pursuance of the rules of the Society of which he is a member, or of the Committee as the case may be, and the services rendered by the practitioner shall be of such a kind as to comply with the conditions set out in the Third Schedule hereto (or any such modifications of those conditions as do not impose an additional burden on the practitioner) being conditions respecting the nature and quality of treatment which must be complied with by reason of any scheme for the distribution of a Parliamentary grant.

8. The practitioner shall immediately after April 14th, 1913, and the expiration of such subsequent periods as may be agreed, furnish an account on the form provided for the purpose by the Committee.

9. All treatment shall be given by the practitioner personally, except where he is prevented from so doing by urgency of other professional duties, absence from home, or other reasonable cause, and the practitioner will to the best of his ability provide that when he is so precluded from personal attendance some other practitioner will give attendance as his deputy on his behalf: Provided that where treatment

is given by a deputy the deputy shall be entitled to treat patients at places other than those mentioned in the First Schedule hereto.

10. The remuneration of the practitioner for the treatment of patients during the period ending April 14th, 1913, shall be calculated in accordance with the Regulations upon the basis of the scale contained in the Fourth Schedule hereto, and thereafter as may be agreed.

11. The practitioner shall order in the form provided by the Committee for the purpose such drugs and prescribed appliances as are requisite for the treatment of any patient other than those which the practitioner may under this agreement or any agreement hereafter to be made with the Committee himself supply: Provided that if the practitioner orders any drug not included in the list from time to time supplied to him by the Committee he shall give such order on a special form provided by the Committee for that purpose.

12. (i.) The practitioner shall himself supply to a patient where requisite drugs which are necessarily or ordinarily administered by a practitioner in person, and drugs and appliances required for immediate administration or application, or required for use before a supply can conveniently be obtained otherwise under the Regulations.

(ii.) The practitioner shall furnish, together with the accounts for treatment above-mentioned, accounts for the drugs and appliances so supplied by him, and payment shall be made therefor at the same rate as that agreed to be paid by the Committee to chemists and other persons supplying drugs and appliances.

13. This agreement shall continue in force and have effect until April 14th, 1913, or such later date as may hereafter be agreed.

14. Except where the context otherwise requires, words and expressions used herein shall have the same meaning as in the Regulations.

Signature of Practitioner † .....

Qualifications .....

Date .....

* NOTE.—The Regulations require that persons assigned to practitioners by the Committee should be so assigned "so far as practicable under arrangements made by practitioners on the panel."

† This agreement should be signed by the practitioner over a sixpenny stamp.

THE THIRD SCHEDULE.

The conditions of any grant to any Insurance Committtte will require that records shall be kept of the diseases of the insured persons in the area and of their treatment in such form as is required by the Commissioners,* and that such certificates shall be furnished to every insured person as are required to be furnished by that person in connexion with any claim for sickness or disablement benefit made by him in pursuance of the rules of the Society of which he is a member or of the Committee as the case may be, and that the general arrangements made by the Committee shall be such as to secure to insured persons a standard of treatment satisfactory to the Commissioners, and that the domiciliary treatment of insured persons recommended for sanatorium benefit shall be undertaken by the practitioners by whom they are attended, and that for that purpose those practitioners shall receive remuneration out of a fund equivalent to a sum of 6d. per annum in respect of each person entitled to receive treatment from them.

* NOTE.—This form is set out in the Second Schedule to this agreement.

THE FOURTH SCHEDULE.

SCALE FOR CALCULATING REMUNERATION.

The rates upon which remuneration shall be calculated shall be, in respect of the following services:—

	s.	d.
1. Attendance on the patient at the practitioner's residence, surgery, or dispensary		
2. Visit to the patient's residence		
3. Special visit—i.e., visit paid by the patient's desire on the same day as a call received after ..... A.M., or on Sunday		
4. Night visit—i.e., visit made between the hours of 8 P.M. and 8 A.M. in response to a call received between those hours.		
5. Surgical operation requiring local or general anæsthetic, or case of abortion or miscarriage		
6. Administration of general anæsthetic		
7. Setting of fracture		
8. Reduction of dislocation		

MODEL LETTER OF INVITATION FROM THE INSURANCE COMMITTEE TO EACH MEDICAL PRACTITIONER IN THE AREA.

SIR,—The Insurance Committee are required under the National Insurance Act and the Regulations made by the Insurance Commissioners to make arrangements with medical practitioners for securing the treatment of insured persons, and they are accordingly inviting all medical practitioners within their area to confer with them, either personally or through some representative Committee, as to the nature of the arrangement to be adopted.

If you are willing to enter into negotiations with a view to acting on the panel in this Committee's area, I am to request you to notify the fact to me. An addressed envelope is enclosed for reply.

CONDITIONS OF SERVICE.

The conditions of service upon which practitioners are invited to undertake the treatment of insured persons are set out in the alternative forms of agreement enclosed herewith.

REMUNERATION.

The total sum available for the remuneration of practitioners in the area is made up of the following sums:—

(*a*) A sum of 6*s.* 6*d.* per head per annum in respect of every insured person entitled to obtain medical attendance from a practitioner on the panel;

(*b*) In every area in which the total amount required for the provision of drugs and appliances is less than 2*s.* per head of insured persons entitled to obtain medical attendance from practitioners on the panel, a sum representing the amount unexpended up to a total of, and not exceeding, 6*d.* per head;

(*c*) a sum equal to 6*d.* per head per annum of all insured persons entitled to obtain medical attendance from practitioners on the panel, in respect of the domiciliary treatment of insured persons suffering from tuberculosis.

The total fund, consisting of the aggregate of the sums above mentioned, will be distributed among practitioners on the panel in accordance with the method of remuneration adopted in the area.

METHOD OF REMUNERATION.

The alternative forms of agreement which are enclosed are framed on a capitation basis and on an attendance basis respectively. The selection of one of these alternatives will be a matter for negotiation between the Local Medical Committee, or, if no such committee exists, the medical practitioners coming on the panel and the Insurance Committee.

PROVISIONAL ARRANGEMENTS.

The arrangements which the Insurance Committee propose to discuss with the medical practitioners may be distinguished as follows:—

(*a*) Provisional arrangements to come into operation on Jan. 15th next;

(*b*) subsequent arrangements, the settlement of which may require further consideration.

It is proposed to postpone the consideration of the subsequent arrangements for the immediate present, and to proceed at once with the establishment of provisional arrangements, which, subject to extension by consent, will be limited to the period ending on April 14th, 1913.

The necessity for adopting provisional arrangements arises from the fact that the register of insured persons in the Committee's area is not yet complete, and that the arrangements must therefore be such as will not require that the allocation of insured persons to the care of individual practitioners should be completed by the 15th January next. In the absence of a complete register, arrangements have been made for providing each insured person entitled to medical benefit with a medical ticket as evidence of his being so entitled, and the arrangements must be so framed as to secure that any insured person presenting his ticket to a practitioner on the panel may be reasonably certain of obtaining the necessary treatment.

The method of remuneration adopted must be framed with a similar object in view.

PUBLICATION OF PANEL LIST.

As the first lists of practitioners on the panels must be issued for the assistance of insured persons in selecting their doctors during the first week of January, the name of any practitioner whose acceptance is received later than Dec. 31st cannot appear on those first lists. Hence it will be necessary that the negotiations mentioned above, so far as they relate to the provisional period, should be concluded in sufficient time to allow the form of agreement finally adopted by the Committee to be re-issued to you in a complete form, and to permit of its execution and return not later than Dec. 31st by those practitioners who desire their names to appear in that list.

I am, Sir,

Your obedient Servant,

.....

ARRANGEMENTS DURING FIRST QUARTER OF 1913 FOR MEDICAL BENEFIT.

The following are the instructions to insured persons:—

1. In order to obtain medical benefit you will need a medical ticket. If you do not receive one with this leaflet apply at once to your society or branch. The ticket must bear your name and address, the name of your society and branch, and your number in the society or branch. The medical ticket should be carefully kept, and is only valid until April 30th, 1913.

MEDICAL TICKET.

NOT TRANSFERABLE.

This Ticket is to be used only for the purpose of obtaining medical benefit for the person to whom it is issued. If any other person uses or attempts to use it for the purpose of obtaining benefit for himself, he is liable to penalties under the Act.

Write here your name and the exact address where you are now living. .....

.....

Society and Branch .....

Contributor's Number .....

This Ticket can only be used from the 15th January to the 30th April, 1913.

2. You can obtain information as to how to get medical benefit by consulting the notice which will be exhibited in the post office nearest to your address, or by applying to the local officer of Customs and Excise, whose address can be found by inquiry at your nearest post office.

3. If you apply for treatment to any doctor mentioned in the notice, you must at the same time show your medical ticket.

EXPLANATIONS: OFFICIAL AND UNOFFICIAL.

Among the various published explanations which have reached us of the position now before the medical profession three call for special notice. The first is an official "Explanatory Statement as to Medical Benefit as affecting Medical Practitioners" issued to the profession in the form of a pamphlet of 16 pages by the Insurance Commissioners. The contents of this document are grouped under ten main headings as follows: (1) Persons entitled to medical attendance and treatment; (2) the general arrangements for giving

attendance and treatment to the insured; (3) the panel system; (4) remuneration; (5) provision of drugs and appliances; (6) mileage; (7) persons who make their own arrangements; (8) income limit in respect of medical benefit; (9) administration; (10) provisional arrangements. In addition to definitions and explanations the Commissioners' statement contains certain conjectures. Thus, with regard to the method of remuneration, Paragraph 21 says that in practice this will usually be decided in accordance with the preference of the practitioners on the panels; while the next paragraph says that for the majority of persons entitled to attendance in any one year no treatment will be required. Equally open to criticism is the statement at the end of Paragraph 24: "There is nothing to prevent such modifications being made if locally agreed upon"; this begs the question of local agreement.

In addition to the official statement, which demands scrutiny from medical practitioners, we have received copies of printed circulars from Dr. T. Arthur Helme, of Manchester, and from Dr. Charles Buttar, of London. Each of these leaflets examines shortly the alternatives now before the profession and reviews the Government's present offer in the light of medical requirements, and the purpose of each is clearly to advocate refusal of service under the conditions laid down in the Act, in the Regulations, and in the latest Memorandum of the Chancellor of the Exchequer. Dr. Helme's circular is addressed in particular to the members of his own branch of the British Medical Association, and it essays, firstly, to draw an accurate picture of what future practice would be under the Act. Under the head of Remuneration, Dr. Helme writes: "Previous calculations of contract work are upset, for in this flat rate is to be included a combination of male and female lives, unhealthy lives, those in hazardous occupations and suffering from diseases of misconduct, lives under 65 years of age, and those formerly considered uninsurable." (We assume "under 65" is a slip for "over.") In considering the services required of medical men under the Act he suggests that the contract made between the practitioners and the Insurance Committee is one in which the remuneration is fixed and limited, whilst the services are to some extent indefinite. He argues that if the profession undertakes to give contract work under the Act this will be at the sacrifice of its independence. As to the right to dispense, "this, subject to a small exception, has been ruthlessly filched from the profession." Summing up, Dr. Helme declares that there has been no real attempt to meet the demands of the profession, that the remuneration differs little from that originally proposed, that the profession in taking service would be under lay control in which Friendly Societies have a preponderating position, and that free medical attendance would be given to those well able to pay for it as private patients, whilst club practice with its worst features would be extended and given recognition by the State. Before recording their votes he urges all medical men to judge the question, not only from the point of view of individual interest, but with full and responsible sense that the future of medicine and the well-being of the public are in their hands. He concludes with the words, "However the vote may go, our difficulties are capable of solution, if only we remain united and each supports the whole." As an appendix to his letter, Dr Helme sets out the following short summary of the results of the recent conference between the deputation of five, of which he was a member, and the Chancellor of the Exchequer:—

The Chancellor's Concessions.

1. To provide a small sum for mileage in special sparsely populated districts and places difficult of access.
2. To alter the constitution of the Enquiry Committee—now to be composed of two doctors and one lawyer.
3. To amend Act so as to withdraw the right to medical benefit from those whose income is over £160 merely because they had been insured for five years.
4. To allow dispensing by doctor where patient resides in a rural area and is more than a mile from a chemist. This does not affect the main point.
5. To make bookkeeping as little as possible, and not to allow inspector to come between doctor and patient.
6. To allow 10 per cent. representation of practitioners upon the Insurance Committee, though the additional representatives will not be elected by the profession.

The Chancellor Refuses:

1. To increase remuneration.
2. To institute a central fund for mileage with extra allowance.
3. To reduce the three-mile limit to two miles.
4. To allow practitioner to retain his right to dispense.
5. To withdraw from the Insurance Committee the sole right to fix an income limit.
6. To subject the decision of the Insurance Committee respecting income limit to the approval of the Commissioners.
7. To abolish the right of the Insurance Committee to exempt persons or classes of persons from income limit.
8. To allow the insured person to make his own arrangements for medical benefit—the decision rests with the Insurance Committee.
9. To allow practitioners the right to decide the method of payment—this rests with the Insurance Committee.
10. To cancel the right of the Insurance Committee to finally allocate to practitioners on the panel against their wish patients who have been refused.
11. To allow the profession to deal with unreasonable demands for service, except by complaint to the Insurance Committee (a lay body) or in first instance to the Committee of Complaints.
12. To withdraw the investigation of complaints against medical men on professional matters from a lay tribunal.
13. To allow a professional man to be judged by his peers.
14. To abolish the power of the Commissioners to remove a practitioner from the panel, and to entrust this power only to a Medical Court.

Dr. Buttar sets outs out in parallel columns the "cardinal points" of the British Medical Association and the present position of each point under the Act, the Regulations, and the statements of the Chancellor of the Exchequer. Out of nine demands he finds that five are not granted, one is partly granted, one is granted with possible limitations, and two are granted in actual words. To each decision as to refusal or concession Dr. Buttar adds a few lines of brief, pithy explanation. He also draws attention at the foot of the table to the additional conditions imposed upon the profession by the Act, the Regulations, and the Chancellor's statement, and adds a short synopsis of the actual modification obtained by the deputation of five at their conference at the Treasury. Dr. Buttar concludes his bird's-eye view of the situation by saying that these concessions do not seem to justify either (*a*) surrendering the freedom of the medical profession for what in the end will be a State-controlled service; or (*b*) abandoning the decision that the Regulations under the Act are unworkable and derogatory to the profession.

THE ACTION OF THE LONDON INSURANCE COMMITTEE.

We are informed that the Insurance Committee for the County of London have had under consideration the duties imposed upon them by the provisions of Section 15 of the National Insurance Act with reference to the administration of medical benefit. With a view to making arrangements for the medical attendance and treatment of insured persons entitled to medical benefit they have addressed a letter to all medical practitioners practising in the County of London inviting them to confer with the Insurance Committee, either personally or through some representative committee, as to the nature of the arrangements to be adopted. The alternative forms of agreement, which are framed on a capitation basis and on an attendance basis respectively, have been forwarded with this letter of invitation, and the selection of one of these alternatives will be a matter for negotiation between the Local Medical Committee or, if no such medical committee is formed, the medical practitioners on the panel and the Insurance Committee.

Medical News.

UNIVERSITY OF OXFORD.—The following degree has been conferred:—

D.M.—W. D. Sturrock.

The following candidates have satisfied the examiners in the undermentioned examinations:—

D.P.H.: Part I.—J. C. Barucha, A. J. Macfarland, L. J. J. Orpen, and H. G. T. Truscott Major.
Part II.—R. Donald and A. H. Tebbutt.
Parts I. and II.—W. B. Hill and A. E. Jerman.

THE Paris Academy of Medicine has elected M. Delezenne by a large majority, the other candidates being M. Jacob Langlois and M. Rieffel.

HOSPITAL ALMONERS' COUNCIL.—The annual meeting of this useful body took place at Caxton Hall on Dec. 6th, Sir James F. Goodhart, Bart., the Vice-President, being in the chair. The report draws attention to the fact that the council now numbers among its members many representatives of London and provincial hospitals. During

the past year almoners trained by the council have been appointed at two London hospitals, while others have secured posts as assistants. Two candidates are being specially trained for posts in the North of England, and nine others are now in training. The chairman, in moving the adoption of the report, drew attention to the work of the council in stimulating a demand, which it is now called upon to supply, and made a reference to the importance of the recommendations of the Special Committee of King Edward's Hospital Fund as they affect the future of the movement. Particular attention was drawn by various speakers to the necessity of definite training and to the danger of the appointment of those who are unable to benefit by the experience of their predecessors. The need for this training had been realised by those hospitals which had sent almoners to be trained by the council whom they had appointed and who had already begun work.

METROPOLITAN HOSPITAL SUNDAY FUND.—At a meeting of this Fund held at the Mansion House on Dec. 9th it was announced that the collection for the year amounted to £67,972. The total collection in places of worship was £1195 less than in 1911. Hospital Sunday for 1913 has been fixed for May 25th.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Chancellor of the Exchequer and the Medical Profession.

THE statements as to the administration of medical benefit and correspondence thereon between the Chancellor of the Exchequer and the British Medical Association have been issued as a Parliamentary White Paper. The documents include the memorandum as to medical benefit under the Insurance Act, which was published in THE LANCET of Dec. 7th.

Milk and Dairies Bill.

Mr. BURNS, President of the Local Government Board, has introduced in the House of Commons a Bill "to make better provision with respect to the sale of milk and the regulation of dairies." It has been read a first time.

Scottish Insurance Committees and Sanatorium Benefit.

A deputation representing 15 county and 22 burgh Insurance Committees in Scotland met the Chancellor of the Exchequer at the House of Commons on Monday, Dec. 9th, to lay before him their objections to the proposal of the Government to allocate to medical men 6*d.* per insured person for domiciliary treatment of tuberculosis under the Insurance Act. Their point was that the rating authorities had been relying on the full 1*s.* 3*d.* per insured person for sanatorium benefit, and the deduction of 6*d.* would be serious for them. The conditions of insured persons in Scotland, they urged, were such as to render them highly unsuitable for domiciliary treatment, and the proper places for their treatment were the hospital, the dispensary, and the sanatorium.

Mr. LLOYD GEORGE, in his reply, stated that he must adhere to his proposal to allocate the 6*d.* to the medical profession. Insurance Committees must make the remaining 9*d.* suffice, and rely upon the rating authorities to make up half the balance and the Treasury the other half.

HOUSE OF LORDS.

THURSDAY, DEC. 5TH.

The Medical Bill.

On the motion of Viscount MORLEY OF BLACKBURN, the Medical Bill (which is designed to simplify certain matters as to the election of Direct Representatives to the General Medical Council) was read a second time. On Dec. 9th the Bill passed through Committee without amendment.

Postponement of Mental Deficiency Bill.

Lord RIBBLESDALE asked the Government whether they had any intention of reconsidering their announced decision not to proceed this session with the Mental Deficiency Bill. He said that everyone would regret that the Government had decided to drop this Bill and had sacrificed it to party necessities.—Lord STRACHIE replied that he could not agree that the Bill had been sacrificed to party necessities, but he thought that it had been sacrificed to House of Commons necessities. It was quite clear that it could only have been got through by sacrificing other measures to which the Government were more attached.

HOUSE OF COMMONS.

WEDNESDAY, DEC. 4TH.

West African Medical Appointments.

Mr. EDMUND HARVEY asked the Secretary of State for the Colonies what public appointments in the Gold Coast, Sierra Leone, and Lagos were open to coloured medical men of African descent.—Mr. L. HARCOURT said in reply: Three native medical officers are employed by the Government of Sierra Leone and four by the Government of Southern Nigeria. None are employed in the Gold Coast.

THURSDAY, DEC. 5TH.

Negotiations with the Medical Profession.

Mr. BOOTH asked the Chancellor of the Exchequer whether he could make any statement with regard to his negotiations with the medical profession respecting the administration of medical benefits under the National Insurance Act.—Mr. LLOYD GEORGE said in reply: I made a statement to the House on Oct. 23rd as to the amount of money which the Government proposed to ask Parliament to grant—namely, £1,650,000, for the purpose of increasing the funds available for the remuneration of practitioners attending insured persons, and I then explained the main features of the proposal which I also described in greater detail in a statement which I made the same day to the Advisory Committee appointed under the Act. Subsequently the British Medical Association, after discussions upon the subject in their various divisional meetings, appointed a deputation of five representatives to confer with me in regard to various points on which they desired further information. The five representatives accordingly saw me on the morning of Monday, Nov. 25th, and again the next day. Various points on which the deputation had been instructed by the representative meeting to obtain further information were brought before me, and a Memorandum was prepared setting forth fully the decisions of the Government, together with the explanations on points upon which doubts had existed. The five representatives had been instructed to prepare a report for their Council upon their conferences with me, and the Council was subsequently to circulate a report to all the members of the Association for the consideration of the profession as a whole. As the deputation informed me that it would be impossible for that report to be completed for circulation until Dec. 6th, at their request I agreed that what passed between us at the conference and my Memorandum should be kept confidential on both sides until that date. I therefore propose to lay on the table of the House this evening the Memorandum representing the reply of the Government together with other papers on the subject, and I have arranged that the White Paper containing these shall be available for honourable Members at the Vote Office to-morrow morning. Copies of the medical benefit regulations, revised to carry out the changes that have been decided on, will also be laid upon the table to-day and published to-morrow.

Mr. GINNELL: Will the right honourable gentleman include in his statement his proposals regarding an equivalent for Ireland in this matter?—Mr. LLOYD GEORGE: This has nothing to do with Ireland. It simply has reference to the medical benefit under the Insurance Act.

Medical Remuneration under the Insurance Act.

Sir JOHN JARDINE asked the Secretary to the Treasury whether, under the present proposals for medical remuneration under the National Insurance Act, doctors would have to wait until after the end of each quarter before they were paid in respect of that quarter, or whether he could arrange for advance payments to be made.—Mr. MASTERMAN answered: Although the exact sums to be paid in respect of any quarter can, of course, only be determined after the end of that quarter, arrangements will be made whereby it will be possible for medical men on the panel to receive payments in advance based on the numbers of insured persons on their lists at the beginning of the quarter.

Mr. GLYN-JONES: Do Friendly Societies pay their medical men in advance?—Mr. MASTERMAN: I cannot say, but I think that it is very desirable that some payment should be made as soon as possible.

The Possibilities of Sanatorium Benefit.

Mr. LANE-FOX asked the Secretary to the Treasury whether, under the National Insurance Act, a blacksmith, on payment of 4*s.* 8*d.* contribution, could obtain benefits of the value of £200.—Mr. MASTERMAN answered: Yes, sir. A blacksmith or other insured person suffering from tuberculosis could be recommended by an Insurance Committee for sanatorium treatment, the cost of which might involve an expenditure reaching to £200, even though the amount of contributions paid by, or in respect of, the insured person before the date of his illness did not exceed 4*s.* 8*d.*

Mr. LANE-FOX: Is that a case which can honestly be put as a typical case under the Insurance Act?—Mr. MASTERMAN: It is a case which actually occurred, and it is a very remarkable one.

Mr. LANE-FOX: But is it a fair case to be quoted as typical, or is it exceptional?—Mr. MASTERMAN: It is a true case and a perfectly fair one, and I have no means for suggesting that it is a unique case receiving benefit. The recommendation for sanatorium benefit will continue so long as the patient is receiving benefit from the sanatorium.

Mr. J. SAMUEL: Is the right honourable gentleman aware that it is possible under the Insurance Act for an insured person, say, age 21, after being insured for two years and having paid £1 14*s.* 8*d.* in premium to draw in benefits £617 10*s.*?—Mr. MASTERMAN: Yes, that is one of the beneficent results of National Insurance.

Sanatoria in Ireland.

Mr. SWIFT MACNEILL asked the Chief Secretary to the Lord Lieutenant of Ireland to state what counties in Ireland were availing themselves of the accommodation, either on a temporary or permanent basis, of the Peamount, Rosslare, or Allan Ryan Sanatoria, under the control of the Women's National Health Association in Ireland.—Mr. T. W. RUSSELL (on behalf of Mr. BIRRELL) replied: I am informed by the honorary secretary of the Women's National Health Association that the counties in Ireland which have intimated their intention of availing themselves of accommodation either on a temporary or permanent basis of the Peamount, Rosslare, or Allan Ryan Sanatoria under the control of the association are Armagh, Carlow, Cavan, Clare, Donegal, Dublin, Fermanagh, Kerry, Kildare, Kilkenny, King's County, Leitrim, Limerick, Londonderry, Louth, Meath, Monaghan, Roscommon, Tipperary North, Tipperary South, Tyrone, Waterford, Westmeath, and the county boroughs of Dublin, Limerick, and Londonderry.

Sir J. LONSDALE: Is the Peamount Sanatorium ready for occupation?—Mr. T. W. RUSSELL: It is already occupied.

MONDAY, DEC. 9TH.

Hospitals and the Insurance Act.

Writing in reply to Sir HILDRED CARLILE, Mr. MASTERMAN said: Medical benefit under the National Insurance Act includes that service which can ordinarily be given by general practitioners who have come on to the panel. I know of no reason why the present treatment of the

working people in hospitals and other similar institutions should be disturbed by the National Insurance Act. If, as a result of experience, the voluntary hospitals find that they require State grants for the treatment of insured persons, the whole question of State control would necessarily be raised, and at present this is not contemplated under the Act.

Medical Benefits in Germany.

Mr. WORTHINGTON EVANS asked the Secretary to the Treasury whether the total cost of medical and sanatorium benefits under the German insurance scheme for sickness, invalidity, and accident insurance amounted to approximately 14s. per insured person per annum, inclusive of drugs and the treatment of the sick in hospitals and institutions; and whether the Government Memorandum said to be in course of preparation in July last, giving explanations on these questions, was yet ready for publication.—Mr. MASTERMAN replied: Any attempt to give the total cost of the benefits mentioned under the several German schemes would be misleading without further particulars than can well be included in answer to a Parliamentary question. I hope to issue the Memorandum as a White Paper during the course of next week.

Medical Remuneration for Domiciliary Treatment of Tuberculosis in Scotland.

Mr. DUNCAN MILLAR asked the Secretary to the Treasury whether his attention had been directed to the resolution passed at a representative conference of Scottish County and Burgh Insurance Committees, representing over 70 per cent. of the total insured persons in Scotland, held in Glasgow on Dec. 2nd, protesting against the proposal of the Government to allocate to the doctors for domiciliary treatment of consumption 6d. out of the 1s. 3d. provided by the National Insurance Act in respect of each insured person for defraying the cost of sanatorium benefit in each year, on the ground that such allocation would seriously affect the administration of the sanatorium benefit; and whether, having regard to the strong expression of opinion from Scotland and other parts of the United Kingdom, he would consider as to making other arrangements so as to avoid encroaching upon the sum assured under the Act for sanatorium benefits.—Mr. MASTERMAN answered: The Chancellor of the Exchequer is receiving a deputation from Scottish Insurance Committees on this subject this afternoon.

Colliery Workers and Medical Attendance.

Mr. DUNCAN MILLAR asked the Secretary to the Treasury whether his attention had been directed to the formation of workers' associations in connexion with collieries and other large industrial works on the lines of the existing works' doctor system in order to provide medical attendance for dependants along with medical attendance to insured contributors under the National Insurance Act; and whether, as the matter was one closely affecting the administration of the medical benefit under the National Insurance Act, he would see that every assistance was given by the Insurance Commissioners in the formation of such associations and in securing their recognition by the Insurance Committees as providing proper medical attendance and treatment under subsections (3) and (4) of Section 15 of the National Insurance Act.—Mr. MASTERMAN said in reply: The answer to the first part of the question is in the affirmative. The attention of Insurance Committees has been called to the necessity for making provision for such cases as are referred to in the question, and model forms for application have been issued.

The Health of Speltermen in Swansea District.

Mr. C. DUNCAN asked the Secretary of State for the Home Department whether he had any power by way of regulation to put an end to the sacrifice of health and life resulting from the unreasonably long hours of employment in a poisonous atmosphere by the speltermen in the Swansea district.—Mr. MCKENNA replied: The industry was made the subject of a careful inquiry in 1910, a report of which was presented to Parliament, and regulations for the purpose of safeguarding the health of the workers were subsequently made and came into force in October of last year. The report did not recommend any limitation of the hours of adult men, and it is too early yet to form any judgment on the working of the regulations, but the matter will be carefully watched.

Mr. C. DUNCAN further asked whether the right honourable gentleman could make inquiry into the 77 cases of lead poisoning which had occurred since 1907 in the spelter trade in the Swansea district, with a view to ascertaining how many of those so suffering had been permanently disabled from following their usual employment; and whether he would inquire as to whether any cases of wrist-drop had occurred in the cases reported.—Mr. MCKENNA: The information in the possession of the Home Office shows that 10 of the cases were reported as severe, 30 as moderate, and 37 as slight, and that wrist-drop was reported in 17. My department has no means of ascertaining in how many cases the workman may prove to be permanently disabled from following his usual occupation.

Deaths from Burning Flannelette.

Mr. JOYNSON-HICKS asked the Home Secretary whether legislation would be introduced in this or the ensuing session to prevent deaths owing to the use of flannelette.—Mr. MCKENNA answered: The only recommendation of the coroners' committee which inquired into this subject was that the Merchandise Marks Act, 1887, should be amended so as to make it penal to describe as non-inflammable material which will not stand certain prescribed tests. I understand this cannot be done in the way suggested, because the subject is entirely outside the scope of that Act; but I am ready to receive suggestions as to the prescription of practicable standards and tests with a view to the introduction of legislation.

TUESDAY, DEC. 10TH.

The Site of Westminster Hospital.

Sir HENRY CRAIK asked the honourable Member for St. George's-in-the-East, as representing the First Commissioner of Works, what power the Government had in respect of the site now occupied by the Westminster Hospital; and whether, in the event of the removal of the hospital, that power would be exercised in order to secure that the site should be used in a manner suitable to the dignity of the situation and so as to provide for the highest public advantage in the future.—Mr. WEDGWOOD BENN replied: The site cannot be used for any other purpose than that of a hospital without the consent of the Crown; and there are various restrictions as to buildings. The Government has the subject under careful consideration from the points of view suggested by the honourable Member.

Sanatorium Benefit in the West Riding.

Replying to Mr. LANE-FOX, Mr. MASTERMAN (Secretary to the Treasury) said: The West Riding of Yorkshire Insurance Committee have provided sanatorium, dispensary, and domiciliary treatment for insured persons and their dependants suffering from tuberculosis. Between July 15th and Nov. 20th 140 applications in all for treatment had been received by the Insurance Committee from insured persons, their dependants, and those who were uninsured and otherwise ineligible. Eighty-seven were recommended as suitable for treatment. Some of these preferred to make their own arrangements, but 82 have actually received sanatorium benefit, 45 in residential institutions, 3 in or through a dispensary, and 34 at home. The buildings in which accommodation has been secured were in existence before the Act came into operation either as sanatoria or as hospitals, &c., but they have since, where required, been specially converted for use as sanatoria or otherwise adapted for the reception of tuberculous patients. Arrangements have now been made for the lease by the county council of the Cardigan Sanatorium whereby 50 additional beds will be made available. The county council are also promoting a permanent scheme for the provision of a sanatorium and dispensaries. This scheme has received the general approval of the Local Government Board, and an agreement between the county council and the Insurance Committee for the treatment of insured persons and their dependants under this scheme has been approved by the Insurance Commissioners.

Sanatorium Treatment in Ireland.

Mr. SWIFT MACNEILL asked the Secretary to the Treasury how many patients had been recommended by the County Insurance Committees to the Women's National Health Sanatoria in Ireland under the provisions of the National Insurance Act.—Mr. MASTERMAN answered: I am informed that 138 patients have been recommended by Local Insurance Committees in Ireland for treatment in sanatoria managed by the Women's National Health Association. In addition 26 patients have been recommended for domiciliary and dispensary treatment under the Samaritan Committee of the association. Of these 164 persons, 145 have received or are now receiving treatment.

The Sanitary Condition of Prestwich.

Sir FREDERICK CAWLEY asked the President of the Local Government Board whether he was aware that Dr. Manby, of his department, visited the urban district of Prestwich on June 16th, 1911; whether he was sent there to investigate any complaint of the sanitary condition of the district, or whether it was simply in discharge of his duty under the system of sending officers to different districts all over the country; whether Dr. Manby reported favourably upon the sanitary condition of the district; whether the medical officer of health had reported favourably upon both the sanitary condition of the district and the administration of the sanitary law; and would he say what was the average death-rate for the last ten years in the urban district council of Prestwich.—Mr. BURNS replied: Dr. Manby visited Prestwich in June, 1911, in the ordinary course of his duties. He made no report on the sanitary condition of the district. Recent reports of the medical officer of health have stated that the sanitary condition of the district is satisfactory. The average net death-rate for the last ten years is 12·5.

WEDNESDAY, DEC. 11TH.

Medical Service under the Insurance Act.

Mr. BIRD asked the Secretary to the Treasury whether the amount of personal time and attention which could be given by a fully qualified doctor, who contracted to attend 1000 patients under the National Insurance Act, would be sufficient to comply with the Regulations under the Act, seeing that such doctor would have to make on an average 60 attendances a day, or giving an average of less than five minutes to each patient after allowing for time taken in travelling; and whether any limit was to be put on the number of patients which a doctor could be allowed to contract to attend.—Mr. MASTERMAN replied: Care will be taken to ensure that medical men do not contract to give attendance to a greater number of insured persons than is consistent with the interests of those persons. The honourable Member is, however, under a serious misapprehension. No medical man will contract to attend 1000 patients. The contract will be to give such attendance as may be needed by any of the insured persons on the medical man's list. The number on that list may be 1000 or some other number, but the majority of them will not require medical attendance at all during any given year. This correction in the basis of calculation alone will have the effect of multiplying by several times any estimate of remuneration available or dividing similarly any estimate of work required. Even with this allowance, however, I am unable to follow the honourable Member's figures as to attendances which are not implied by any provision of the Regulations and appear to be wildly in excess of estimates advanced even by critics of the Act. According to the experience of contract practice in the past a medical man with 1000 persons on his list (in respect of which he would be receiving £350–£400 per annum) would be required to give about 12 attendances a day, including both visits at the patient's home and consultations at the surgery.

BOOKS, ETC., RECEIVED.

ASSELIN ET HOUZEAU, Place de l'École de Médecine, Paris.

Éléments de Sémiologie et Clinique Mentales. Par le Dr. Ph. Chaslin, Médecin de la Salpêtrière. Price Fr. 18.

BAILLIÈRE, TINDALL, AND COX, London.

Lectures on Clinical Psychiatry. By Dr. Emil Kraepelin, Professor of Psychiatry in the University of Munich. Authorised translation from the Second German Edition. Revised and edited by Thomas Johnstone, M.D. Edin., M.R.C.P. Lond. Third English edition. Price 10s. 6d. net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

The Transactions of the British Homœopathic Society. Session 1911–1912. Edited by Giles F. Goldsbrough, M.D. Price not stated.

CHURCHILL, J. AND A., London.

Year-Book of Pharmacy. Comprising Abstracts of Papers relating to Pharmacy, Materia Medica, and Chemistry, contributed to British and Foreign Journals from July 1, 1911, to June 30, 1912, with the Transactions of the British Pharmaceutical Conference at the Forty-ninth Annual Meeting held in Edinburgh, July, 1912. Editor of the Abstracts, J. O. Braithwaite. Editor of the Transactions, Horace Finnemore, B.Sc., F.I.C. Abstractors, F. W. Gamble, Harold Wyatt. Price not stated.

CROSBY LOCKWOOD AND SON, 7, Stationers' Hall Court, Ludgate Hill, E.C., and 5, Broadway, Westminster, S.W.

Industrial and Manufacturing Chemistry. Organic. A Practical Treatise. By Geoffrey Martin, Ph.D. (Rostock), M.Sc. (Bristol), B.Sc. (London), F.C.S. Assisted by several Specialists. Price 21s. net.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, London.

Clinical Medicine. A Manual for the Use of Students and Junior Practitioners. By Judson S. Bury, M.D. Lond., F.R.C.P., B.Sc. Vict., Consulting Physician to the Manchester Royal Infirmary; Examiner in Medicine to the Royal College of Physicians, London. Third edition. Edited by Judson S. Bury and Albert Ramsbottom, M.D., M.R.C.P., Assistant Physician to the Manchester Royal Infirmary. Price 17s. 6d. net.

KARGER, S., Berlin.

Gynäkologisches Vademekum für Studierende und Aerzte. Von Prof. Dr. A. Dührssen, Berlin. Zehnte vermehrte und verbesserte Auflage. Price M.6.80.

Die Krankheiten des Verdauungskanals. (Oesophagus, Magen, Darm.) Ein Leitfaden für praktische Aerzte. Von Dr. Paul Cohnheim, Spezialarzt für Magen- und Darmkrankheiten in Berlin. Dritte vermehrte und neubearbeitete Auflage. Price M.8.60.

Beitrag zur Klinik und Histopathologie der gutartigen Hautepitheliome. Von Priv.-Doz. Dr. Walter Frieboes, Assistent an der Universitätsklinik für Hautkrankheiten. Price M.8.

Hundert Totalexstirpationen bei Myoma uteri ohne Todesfall. Zugleich ein Beitrag zur Technik der gynækologischen Laparotomie. Von Hofrat Dr. S. Flatau in Nürnberg. Price M.2.40.

Physiologie des Nervensystems. Ergebnisse des Jahres, 1911. Bearbeitet von Priv.-Doz. Dr. Hugo Wiener, Dr. Georg Peritz, Dr. Otto Kalischer, Prof. Dr. G. F. Nicolai, Dr. Meyer-Lierheim, Walter Misch und Auguste Lotz. (Sonderabdruck aus dem Jahresbericht für Neurologie und Psychiatrie, Band XV.) Price M.3.

Anatomie des Nervensystems. Ergebnisse des Jahres, 1911. Bearbeitet von Prof. L. Jacobsohn, Dr. W. Frankfurther und Dr. A. Hirschfeld. (Sonderabdruck aus dem Jahresbericht für Neurologie und Psychiatrie, Band XV.) Price M.3.

Kriminal-Anthropologie. Ergebnisse des Jahres, 1911. Bearbeitet von Dr. L. M. Kötscher. (Sonderabdruck aus dem Jahresbericht für Neurologie und Psychiatrie, Band XV.) Price M.3.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

Internal Medicine. By David Bovaird, Jr., A.B., M.D., Assistant Professor of Clinical Medicine in the College of Physicians and Surgeons of Columbia University. Price 21s. net.

Brain and Spinal Cord. A Manual for the Study of the Morphology and Fibre-Tracts of the Central Nervous System. By Dr. med. Emil Villiger, Privatdozent in Neurology and Neuropathology in the University of Basel. Translated by George A. Piersol, M.D., Sc.D., Professor of Anatomy in the University of Pennsylvania. From the Third German edition. Price 16s. net.

STEINHEIL, G., Paris.

Travaux de Chirurgie Anatomo-Clinique. Par Henri Hartmann, Professeur à la Faculté de Médecine, Chirurgien de l'Hôpital Bichat. Avec la Collaboration de B. Cunéo et Paul Lecène, Professeurs Agrégés, Chirurgiens des Hôpitaux; Küss, Prosecteur à la Faculté; Delamare, V. Henry et Lebreton, Anciens Internes des Hôpitaux. Quatrième Série. Voies Urinaires. Price Fr.16.

UNIVERSITY PRESS, Cambridge.

Herbals, Their Origin and Evolution. A Chapter in the History of Botany, 1470–1670. By Agnes Arber (Mrs. E. A Newell Arber), D.Sc., F.L.S., Fellow of Newnham College, Cambridge, and of University College, London. Price 10s. 6d. net.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Taschenbuch der Magen- und Darmkrankheiten. Von Dr. Walter Wolff, Oberarzt der inneren Abteilung am Augusta-Hospital, Berlin. Price M.4.

Röntgentiefentherapie, ihre theoretischen Grundlagen, ihre praktische Anwendung und ihre klinischen Erfolge an der Freiburger Universitäts-Frauenklinik. Von Dr. C. J. Gauss, Privatdozent und I. Assistent, und Dr. H. Lembcke, Assistent. Mit einem Vorwort von Professor Dr. B. Krönig in Freiburg i. Br. Price, paper, M.15; bound, M.17.

Lehrbuch der Augenheilkunde in der Form klinischer Besprechungen. Von Dr. Paul Krömer, o.ö. Professor der Augenheilkunde, Direktor der Universitäts-Augenklinik zu Greifswald. Zweite, umgearbeitete Auflage. Erster Band. (Seite 1–380 und Tafel I.–XXI.) Price M.8, or K.9.60. (Der II. Band ist bereits erschienen und zu gleichem Preise nachzubeziehen. Preis des kompletten Werkes in 2 Bänden gebunden, M.18, or K.21.60.)

Die Krankheiten der Nase und Mundhöhle sowie des Rachens und des Kehlkopfes. Ein Lehrbuch für Aerzte und Studierende. Von Dr. Alfred Bruck, Berlin. Zweite, wesentlich vermehrte und verbesserte Auflage. Price, paper, M.14; bound, M.16.

Lehrbuch der Chirurgischen Operationen an der Hand klinischer Beobachtungen für Aerzte und Studierende. Von Prof. Dr. Fedor Krause, Geh. Medizinalrzt, dirigierendem Arzt am [illegible]ugusta-Hospital in Berlin, in Gemeinschaft mit Dr. Emil [illegible]ann, Oberarzt am Augusta-Hospital. I. Abteilung. Price, [illegible] bound, M.14.

[illegible] Gerichtlichen Psychiatrie für Mediziner und [illegible] Dr. Ernst Bischoff, Privatdocent für Psychiatrie [illegible]nde in Wien, Sachverständiger für Psychiatrie [illegible]tes in Wien. Price, paper, M.8; bound,

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Heyl.
M.12.50;
Lehrbuch d.
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Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

DODSON, WILLIAM T., M.R.C.S., L.R.C.P., has been appointed House Physician at the Warneford General Hospital, Leamington.

FRESHWATER, DOUGLAS H., B.C., M.D. Cantab., has been appointed Physician to the Western Skin Hospital.

HASLAM, IVY E., M.D., B.S. Lond., M.R.C.P. Lond., has been appointed Honorary Pathologist to the Warneford General Hospital, Leamington.

KERR, HAROLD, M.D., Ch.B. Edin., D.P.H., has been appointed Medical Officer of Health of Newcastle.

LUND, HERBERT, M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed one of the Medical Referees under the Workmen's Compensation Act, 1906, for County Court Circuit No. 8 (Salford).

SYDENHAM, FREDERICK, M.D. Edin., F.R.C.S. Edin., D.P.H., has been appointed Honorary Surgeon for Diseases of the Ear, Nose, and Throat at the Warneford General Hospital, Leamington.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE, DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £90 per annum, with board, residence, and laundry.

BATH, ROYAL UNITED HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

BIRMINGHAM, JAFFRAY BRANCH OF THE GENERAL HOSPITAL, Gravelly Hill.—Resident Medical and Surgical Officer. Salary £150 per annum, with board, residence, and washing.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Physician for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BIRMINGHAM, UNIVERSITY OF.—Lecturer in Physiology. Salary £200 per annum.

BODMIN, CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer and Pathologist. Salary £160 per annum, with quarters, board, laundry, and attendance.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon for six months. Salary £80 per annum, with board, lodging, and laundry.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for five months. Salary at rate of £50 per annum, with board, apartments, and laundry. Also Dental House Surgeon. Salary £100 per annum, with apartments, board, and laundry. Also Honorary Dental Anæsthetist.

BROADWOODWIDGER RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary £20 per annum.

CAMBERWELL, PARISH OF ST. GILES WORKHOUSE, Constance-road, Grove Vale, East Dulwich.—Resident Medical Officer. Salary £200 per annum, with apartments, board, and washing.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—House Surgeon for six months. Salary £70 per annum.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—Two Resident Medical Officers, unmarried. Salary £90 per annum, with board, lodging, and washing.

CAPETOWN, SOMERSET HOSPITAL.—Assistant Medical Officer. Salary £200 per annum, with rations and quarters.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon. Salary £90 per annum, with rooms, board, washing, and attendance.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—House Surgeon and House Physician. Salary £100 per annum each, with apartments, board, &c. Also Assistant House Surgeon for six months. Salary at rate of £80 per annum, with apartments, board, &c.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £150 per annum, with board, lodging, laundry, &c.

DURHAM COUNTY COUNCIL.—School Medical Inspector (female). Salary £300 per annum.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, and washing. Also Medical Radiographer. Salary at rate of £75 per annum. Also Clinical Assistants in the Out-patient Departments.

GATEFORTH SANATORIUM, near Selby.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

GORDON HOSPITAL FOR RECTAL DISEASES, Vauxhall Bridge-road, S.W.—House Surgeon for six months. Salary £25.

HEREFORD COUNTY AND CITY ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, washing, &c.

HEREFORD, HEREFORDSHIRE GENERAL HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £120 per annum, with board, apartments, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—House Surgeon, unmarried, for six months. Salary £30, with board, residence, and washing allowance.

INDIAN MEDICAL SERVICE.—Twelve Commissions.

INFANTS HOSPITAL, Vincent-square, Westminster.—Assistant Physician.

KENSINGTON AND FULHAM GENERAL HOSPITAL, Earl's Court, S.W.—Resident Medical Officer. Salary at rate of £75 per annum, with board and laundry.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.—Fourth Assistant Pathologist. Salary £170 per annum.
LANCASHIRE COUNTY COUNCIL.—Tuberculosis Officer. Salary £500 per annum.
LAUNCESTON RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary £40 per annum.
LISCARD, VICTORIA CENTRAL HOSPITAL AND WALLASEY DISPENSARY.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.
LIVERPOOL EYE AND EAR INFIRMARY.—House Surgeon. Salary at rate of £80 per annum, with board, laundry, and residence.
LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—Honorary Consulting Gynæcologist. Also Honorary Assistant Surgeon.
LUING AND SHUNA, ISLANDS OF, Argyllshire.—Medical Officer. Salary £150 per annum.
MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £160 per annum, with apartments, attendance, coal, and gas.
MIDDLESBROUGH, COUNTY BOROUGH OF.—Chief Tuberculosis Medical Officer. Salary £450 per annum.
MIDDLESBROUGH COUNTY BOROUGH EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.
PLACE OF DETENTION, Ponton-road, Nine Elms-lane, Vauxhall, S.W.—Medical Officer. Salary at rate of £48 16s. per annum, with an additional payment at rate of £40 for every 1000 children passing through the institution.
QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon and House Physician, each for six months. Salaries at rate of £80 per annum, with board, residence, and washing. Also Clinical Assistant for six months.
READING, ROYAL BERKSHIRE HOSPITAL.—Honorary Physician.
ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City-road, E.C.—Assistant Surgeon.
ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Senior Resident Medical Officer. Salary at rate of £70 per annum, with board and washing.
SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and lodging.
SHEFFIELD ROYAL INFIRMARY.—Honorary Physician and Honorary Assistant Surgeon. Also House Surgeon. Salary £80 per annum.
SOUTH AFRICA LUNATIC AND LEPER ASYLUM SERVICE.—Four Medical Officers, unmarried. Salary £280 per annum and quarters.
STAMFORD HILL AND STOKE NEWINGTON DISPENSARY.—Assistant or Second Resident Medical Officer. Salary £120 per annum, with board, apartments, and attendance.
STOKE-ON-TRENT, COUNTY BOROUGH OF, EDUCATION COMMITTEE.—School Medical Inspector (female). Salary £250 per annum.
SWANSEA GENERAL AND EYE HOSPITAL.—Three House Surgeons and one House Physician. Salary £75 each per annum, with board, washing, and attendance.
SWANSEA UNION WORKHOUSE.—Assistant Medical Officer. Salary about £235 per annum.
TUNBRIDGE WELLS GENERAL HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with board, residence, &c.
WANDSWORTH, METROPOLITAN BOROUGH OF.—Tuberculosis Medical Officer. Salary £500 per annum.
WELLS, SOMERSET AND BATH ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £135 per annum, with board, lodging, washing, and attendance.
WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.
WEST HAM, COUNTY BOROUGH OF.—Tuberculosis Officer. Salary £300 per annum.
WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon or House Physician. Salary £100 per annum, with rations, rooms, and washing.
WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Salary £80 per annum.
WREXHAM INFIRMARY.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Widnes, in the county of Lancaster; at Anstruther, in the county of Fife; at Medbourne, in the county of Leicester; and at Athy, in the county of Kildare.
THE Home Secretary gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for Glossop County Court.

Births, Marriages, and Deaths.

BIRTHS.

BEATTIE.—On Dec. 5th, at Ellison-place, Newcastle-upon-Tyne, to Dr. and Mrs. Thomas Beattie, a son.
TARBET.—On Nov. 28th, at Stevenage, Herts, the wife of Peter Rowley Tarbet, M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

CHAPMAN—RODGERS.—On Dec. 7th, at St. Stephen's Church, Tonbridge, Raymond John Chapman, M.D., D.P.H., to Gertrude Madeleine Naomi Rodgers, daughter of the late Mr. Thomas William Rodgers, of Belfast.
NICHOLSON—ROBINSON.—On Nov. 15th, at St. Thomas's Cathedral, Bombay, Captain Mark Alleyne Nicholson, I.M.S., to Anne Elizabeth, second daughter of Mr. T. Robinson, The Chestnuts, Danby, Yorkshire.
ROSE—HARRIS.—On Dec. 4th, at All Souls, London, Frank Atcherly Rose, F.R.C.S., to Marian Elizabeth Darling, only daughter of Dr. Alfred C. E. Harris, J.P., of Birkenhead.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE SCHIFF HOME OF RECOVERY.

THE scheme upon which the Charity Commissioners have for some months been engaged for the future regulation of the above charity, for which Sir Ernest Frederick Schiff provided an endowment of over £100,000, has at length been settled in all its details and sealed by the Commissioners. It therefore comes into operation at once. It provides, *inter alia*, that the freehold house and 48 acres of land, constituting the Home, and known as Knowle Hill Park, at Cobham, Surrey, shall be vested in the Official Trustee of Charitable Lands, and that the securities and sums of stock constituting the endowment (and which at present produce a gross yearly income of about £4700) shall be transferred to the Official Trustees of Charitable Funds. There are to be a president and six vice-presidents of the charity. The first president is to be the Princess Louise, Duchess of Argyll, and the first vice-presidents are to be Prince Christian, the Duke of Somerset, the Earl of Lytton, the Bishop of Winchester, Sir Ernest Schiff, and Mr. W. E. Horne, M.P. for the Guildford division of Surrey. Future presidents and vice-presidents are to be appointed by the managing committee. This latter body, which is to have the general control and management of the charity and to be its trustees, is to consist of not more than 28 members, being—a chairman, 7 *ex officio* members, 10 representative members, and 10 co-optative members. The first chairman is to be Sir Ernest Schiff, who is to hold office for life, or until the appointment by him of his successor. The *ex officio* members of the committee are to be the president and the six vice-presidents, and the representative members are to be one appointed by each of the seven general hospitals included in the scheme, two by the medical committee, and one by the Royal College of Surgeons of England. The first co-optative members are to be the Duchess of Somerset, Miss Ethelred Fraser Tytler, Mr. E. H. Tindal Atkinson, Mr. Rowland Berkeley, Mr. A. B. Lipscomb, Mr. W. McArthur, Mr. Evelyn Morley, Mr. Sydney Schiff, the Rev. Francis Whyley, and Mr. Stanley Boyd. These are to hold office for five years, and all future co-optative members are to be appointed by the committee. The first representative members of the committee are to be Mr. W. R. Freeman, Mr. A. H. Campbell, Mr. G. L. Hawker, Prince Alexander of Teck, Mr. J. G. Wainwright, and Mr. C. F. Pearson (who are to be deemed to have been appointed by the seven hospitals), and Surgeon-General J. P. Greany, I.M.S. (retired), and Mr. A. W. Mayo-Robson, C.V.O. (who are to be deemed to have been appointed by the medical committee). For the purposes of the scheme there is to be an advisory committee to be called the medical committee. Its duties will be (1) to appoint representative members of the managing committee, and (2) to advise the members of the managing committee on the appointment of the medical officer to the home, whether resident or otherwise, and of nurses, and from time to time to advise the managing committee with respect to all persons, matters, and things connected with the medical department. The medical committee is to consist of nine members—one to be appointed by each of the seven hospitals, and two by the managing committee, but the first members are to be Mr. Stanley Boyd, Mr. C. J. Symonds, Mr. G. L. Cheatle, C.B., Sir Frederick S. Eve, Mr. John Murray, Mr. G. H. Makins, C.B., and Mr. Hugh Morrison Davies (who shall be deemed to have been appointed by the seven hospitals), and Surgeon-General Greany and Mr. Mayo-Robson (who shall be deemed to have been appointed by the managing committee). The first treasurer of the charity is to be Sir Richard Biddulph Martin.

The house and land at Knowle Hill Park are to be "appropriated and used as a home for the reception and accommodation of poor persons of either sex who are suffering from wounds, the result of accident or operation, which still require surgical supervision and nursing, and who have been under treatment for the the accident or operation as in-patients at one of the following London general hospitals:—Charing Cross Hospital, Guy's Hospital, King's College Hospital, the London Hospital, Middlesex Hospital, St. Thomas's Hospital, and University College Hospital." There are provisos that the managing committee may from time to time determine that any other London general hospital shall be entitled to the benefits of the scheme, and may also admit to the home any persons who have been in-patients at any of the specified hospitals, and who still require supervision or nursing, notwithstanding that they are not included in the foregoing description. No person, however, "shall be received as a patient in the home unless (*a*) such person shall have been discharged from the general hospital at which he or she was treated by reason of lack of accommodation therein, and (*b*) unless the resident surgical officer of the general hospital at which such person has been treated, or, if there is none, the resident medical officer shall have certified in writing that in his opinion the removal of such person to the country is conducive to proper recovery." Another

section states that "no person shall in any event be received as a patient in the home who is suffering from inoperable malignant disease, epilepsy, phthisis, or any other disease that the medical committee shall from time to time determine to exclude." It is also laid down that "no person shall be retained as a patient in the home for a longer period than three weeks, except with the sanction of the medical committee. There is to be a resident surgical officer to the home, who shall be a duly qualified registered practitioner. He is to be appointed by the managing committee after approval of his qualifications by the medical committee. He must be unmarried, and at the time of his appointment not less than 25 years of age. He is to be elected for six months, and not to be eligible for re-election, except upon the recommendation of the medical committee. He is to reside and board in the home, and receive such salary and emoluments as the managing committee may determine, and he is not to attend private patients or engage in any other business than that of the home. The managing committee may, on the recommendation of the medical committee, appoint any local medical practitioner in the neighbourhood of the home to be honorary medical officer to the home, and in the event of any emergency amongst the patients requiring additional medical or surgical assistance, the resident surgical officer may seek the help of any such honorary medical officer, and in that case a fee may be paid for such help. Provisions are further made for the appointment of a paid secretary-superintendent and clerks, a Church of England chaplain, a matron, and sisters, nurses, and probationers.

THE DRUG HABIT.

A CORRESPONDENT signing himself M.R.C.S., L.R.C.P., relates the case of a young married woman whom he was called on to attend, and in whose bed were found a twelve ounce bottle three-parts full of laudanum, and an eight ounce bottle and a whisky flask empty, but which had previously contained laudanum. The two medicine bottles were duly labelled with the name of a firm of chemists who have many branches. The patient had a prescription for laudanum, "to be taken as directed," given to her a long time ago by a medical man who had seduced her and initiated her into laudanum drinking, and with this prescription, which, however, she refused to show our correspondent, let alone to surrender to him, for fear he should stop her supply, she was able to obtain laudanum in large quantities at will. Our correspondent asks what is the duty of a medical man under the circumstances. Is there no supervision of chemists to prevent the repeated sale of a poison without the prescriber's renewal of the prescription, or means to prevent that prescription being repeated at the druggist's several branches, and thus to obtain poison in any quantity, even though the prescription may be for a small amount?

*** It is difficult to see what the medical attendant can do under the circumstances, if the patient does not wish to be cured and will not give up the prescription. A publican who serves an intoxicated person with drink renders himself liable to punishment. It would be a good thing if a law could be passed compelling every chemist who dispenses a prescription to stamp it accordingly, and making it a criminal offence for any chemist to repeat such a stamped prescription if it contained any of the recognised habit-forming drugs. —ED. L.

FIRE AND THE CHRISTMAS SEASON.

At this season of the year the danger to life and property by fire is increased in many ways, while the damage threatened may be proportionately great. In some business establishments large quantities of inflammable material are stored and extra lighting is required for the display of goods and for illuminations. The pressure of work on employees and principals alike may cause laxity of attention to those commonsense precautions which would be taken at other times and in other circumstances. The terrible calamity during the Christmas season at Clapham Junction three years ago may be in the memory of our readers, while the more recent Moor-lane fire and the fire at the premises of Messrs. Barker and Co. give point to the need for warning, and we therefore welcome the circular note which the British Fire Prevention Committee (8, Waterloo-place, London, S.W.) have issued on the subject. The gist of the circular is as follows:—

> Special precautions should be taken to see that there be no accumulation of rubbish and waste. ..... Precautions should be exercised for watching premises where overtime is worked or late hours kept on account of the season. The rule as to *no smoking* should be even more strictly enforced than under ordinary circumstances, especially in a warehouse or factory which may contain material even only slightly inflammable. ..... When premises are closed for the Christmas holidays a thoroughly competent examination should be made by a responsible person to see that all is left safe, and, in the case of locked-up premises, to see that they are secure. Gas and electric light should be turned off at the mains. In premises where watchmen are employed it is advisable to arrange for additional help so as to allow for time off, which is expected at this season. ..... Any fireplaces, stoves or flues which may be brought into use at this season should be first carefully examined.

"THE MALAYA MEDICAL JOURNAL."

THIS medical journal, of which the October number (Vol. X., Part 4) lies before us, is the organ of the Malaya branch of the British Medical Association and of the Malaya branch of the Far Eastern Association of Tropical Medicine. It is edited by Gilbert E. Brooke, L.R.C.P. & S. Edin., and is published by the Methodist Publishing House, Singapore. The price is $4.00 per annum, or $1.00 the single copy. It contains an article on Beri-Beri, by John D. Gimlette, Residency Surgeon at Kelantan, Malay Peninsular; a Plea for Masterly Inactivity in the Treatment of Anterior Gonorrhœal Urethritis, by G. J. Carr, M.B. Edin., R.N.; and a short review of the Anatomy and Classification of Siphonaptera (Latreille).

THE "WELLCOME" PHOTOGRAPHIC EXPOSURE RECORD AND DIARY.

Messrs. Burroughs, Wellcome, and Co., of Snow Hill Buildings, E.C., have submitted to us the above diary for the ensuing year. It contains many interesting notes on modern photography, amongst which are articles on colour effects by staining, colour photography, developing, toning, and many other useful details concerning photography. The literature is brief, but the directions are clear. The chief feature is, however, the "Wellcome" Exposure Record, which should assist both the amateur and the experienced to obtain correct exposures. The book contains numerous diary pages for personal notes on photographic work. Three editions are published—one for the Northern Hemisphere and Tropics, one for the Southern Hemisphere and Tropics, and a third for the special requirements of the United States of America.

THE "MOSNA" SANITARY TOWEL.

Messrs. Arnold and Sons, Giltspur-street, London, E.C., have placed on the market an improved sanitary towel composed of a pad of aseptic cotton-wool enclosed in a wide mesh net of strong but soft thread. This net and the loops for attachment are made in one piece, and a strong thread runs from end to end of the pad and is knotted with the loops, thus preventing the danger of the towel becoming detached. An impermeable layer of wool is placed under the pad, and the whole combination is very pliable and comfortable to wear. According to size the towels are sold at from 6*d*. to 2*s*. per dozen. For accouchement a thicker pad with long bandage ends is sold at 3*s*. per dozen.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.
GENERAL MEETING OF FELLOWS at 5 P.M.
Election of Candidates for Fellowship.

THURSDAY.
SECTION OF DERMATOLOGY (Hon. Secretaries—Wilfrid Fox, J. M. H. MacLeod): at 5 P.M.
Cases:
Dr. Pringle: Case of Angiokeratoma.
And other Cases.

FRIDAY.
SECTION OF ELECTRO-THERAPEUTICS (Hon. Secretaries—Cecil R. C. Lyster, G. Allpress Simmons): at 8.30 P.M.
At the Middlesex Hospital, W.
Short Papers will be read and Cases shown.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY.—8.30 P.M., Continuation of Discussion on Intestinal Stasis by Sir Bertrand Dawson, Dr. J. Mackenzie, Mr. Creasy, Dr. Distaso, Mr. B. Ward, Dr. Schlesinger, Mr. G. E. Waugh, Mr. P. Daniel, Dr. Ofenheim, Dr. G. Rowell, and Dr. Wainwright.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.
MONDAY.—9.30 P.M., Surgeon-General G. J. H. Evatt, C.B.: Florence Nightingale.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.
TUESDAY.—4.30 P.M., Demonstration of Pathological Specimens. Cases sent for Consultation. Demonstration of Leprosy and Rare Diseases by Dr. Dockrell, Dr. Bunch, Dr. Phibbs, and Dr. Samuel. 5 P.M., Adjourned Discussion on Anomalies of Pigmentation.

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.
TUESDAY.—8 P.M., Clinical Evening. Cases and Specimens will be shown by Mr. W. Bleaden, Mr. A. G. Buchanan, Dr. H. Dally, Dr. J. H. Dauber, Dr. K. Eckenstein, Dr. G. A. Simmons, Dr. E. Young, and others.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Mr. F. Enock: Lantern Demonstration on Insect Intelligence.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Dr. A. Castellani (Colombo): (1) Vaccination with Live Vaccines (Attenuated) in Typhoid, Paratyphoid, and Cholera; (2) Brief Remarks on Various Fungi Producing Disease in the Tropics, with a Demonstration of Cultures.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 11 A.M., Mr. Addison: Demonstration of Minor Operations 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Morton: Radio-Therapeutics.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin 5 P.M., Lecture:—Mr. Armour: Abdominal Emergencies.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture: Dr. Beddard: Practical Medicine.

THURSDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Ll. Williams: Extraction as a Method of Treatment.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Lecture:—Dr. Owen: Practical Medicine. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritchard: Clinical Pathology.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. G. Holmes: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. Singer: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Dr. G. Holmes: Functional and Organic Paralysis.

FRIDAY.—Out-patient Demonstrations;—10 A.M., Dr. C. Singer: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford; Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Dr. W. Steuart: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

TUESDAY.—Clinic; 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.30 P.M., Lecture-Demonstration:—Dr. A. J. Whiting: The Diagnosis of Early Pulmonary Tuberculosis.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Mr. W. Steuart); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture-Demonstration:—Dr. G. G. Macdonald: Tuberculins.

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. H. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie); Clinical Pathology and Pathological Demonstration (Dr. W. A. Duncan).

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department—Room III., Dr. M. Leslie; Room IV., Dr. S. Thompson. 4 P.M., Wards, Dr. M. Leslie. 4.30 P.M. to 5.30 P.M., Lecture Hall, Lecture-Demonstration.

TUESDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department—Room III., Dr. Phear; Room IV., Dr. B. King. 2 P.M., Operations and Throat Clinic, Mr. A. Evans. 3 P.M., Wards, Dr. White. 3.30 P.M., Wards, Dr. Phear. 4.30 P.M., to 5.30 P.M., Lecture Hall, Lecture-Demonstration.

WEDNESDAY.—2 P.M., Wards, Dr. A. Davies. Out-patient Department—Room III., Dr. Drysdale; Room IV., Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan. 7 P.M., Department for the Prevention of Consumption.

THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department—Room III., Dr. M. Leslie; Room IV., Dr. S. Thompson. 4.30 P.M. to 5.30 P.M., Lecture Hall, Lecture-Demonstration.

FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert. Out-patient Department—Room III., Dr. Phear; Room IV., Dr. B. King. 3.30 P.M., A Special Clinical Demonstration by one of the Out-patient Physicians.

SATURDAY.—10 A.M., Out-patient Department—Room III., Dr. Drysdale; Room IV., Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

WEDNESDAY.—4 P.M., Mr. S. F. Rose: Defective Teeth in Hospital Children; a Brief Consideration of their Ill-effects and Treatment from the Dental Surgeon's Standpoint.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—2 P.M., Dr. W. Griffith: The Pathology of the Skin.—6 P.M., Mr. W. K. Sibley: Lupus Vulgaris and Erythematosus.

THURSDAY.—6 P.M., Dr. M. Dockrell: Bullous and Vesicular Eruptions (continued):—V., Herpes; VI., Zoster; VII., Dermatitis Herpetiformis.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Dr. F. C. Moore: Some Medical Cases. (Post-Graduate Clinic.)

MANCHESTER ROYAL INFIRMARY.

TUESDAY.—4.30 P.M., Dr. H. Griffith: Cases illustrating Diseases of the Eye. (Post-Graduate Clinic.)

SALFORD ROYAL HOSPITAL.

TUESDAY.—Dr. C. C. Heywood: Acute Anterior Poliomyelitis. (Post-Graduate Demonstration.)

For further particulars of the above Lectures, &c., see Advertisement Pages.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M. Aural and Ophthalmic), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.) Hospitals operations are performed daily. At the Western Ophthalmic Hospital operations are performed on Monday, Tuesday, Thursday, and Friday at 3 P.M., and on Wednesday and Saturday at 11 A.M.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 11th, 1912.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Dec. 5	30·00	S.E.	...	51	50	40	39	40	Fine
,, 6	29·83	S.W.	...	56	53	40	49	50	Raining
,, 7	30·03	S.W.	0·01	55	52	44	46	47	Cloudy
,, 8	30·20	S.W.	...	59	53	47	49	50	Cloudy
,, 9	30·16	S.	...	59	53	47	49	49	Overcast
,, 10	30·00	S.W.	0·15	52	52	49	51	51	Raining
,, 11	29·92	S.W.	0·25	56	52	47	46	48	Overcast

The following journals, magazines, &c., have been received.—Kuraciste, Awakener, Bulletins et Mémoires de la Société de Radiologie Médicale de Paris, La Policlinique, Detroit Medical Journal, Archiv für Experimentelle Pathologie und Pharmacologie, University of Toronto Medical Bulletin, Indian Medical Journal, Guy's Hospital Gazette, Calcutta Medical Journal, Public Health, Die Therapie der Gegenwart, Jahrbuch für Kinderheilkunde, Journal of the East Africa and Uganda Natural History Society, Dominion Medical Monthly, Journal of Laryngology, Rhinology, and Otology, Journal of Tropical Medicine and Hygiene, Midland Medical Journal.

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